



UMD™

assures your turbine availability

+BPA10

Superior new standard for Uninterruptible Motor Drives

KRAFT
Kraftelektronik AB

UMDTM – uninterruptible

The UMD is a complete unit that provides uninterruptible power for AC motors. The UMD system continuously provides the pump system with a full power supply, without a pressure drop in the event of mains outage. It sets a new standard in safeguarding drive function for turbine auxiliary systems, while offering several advantages.



COST EFFICIENCY

The economic gain with the UMD is radical compared to investing in DC motors and stand-by systems. The UMD ensures continuous operation of the ordinary drive system and eliminates the need for a separate standby system.

The UMD consists of standardized modules that reduce costs and facilitate engineering and purchasing work. The UMD shortens the lead time for system design, purchasing and installation.

The need for maintenance is considerably reduced as a result of standardization and the elimination of redundant equipment.



AVAILABILITY

The UMD system runs continuously and switches instantly between mains and battery operation if the regular power supply goes down. Consequently the UMD supplies full power all the time and there is no need for start-up, as there is for a standby DC motor, which requires additional equipment to compensate for the lack of pressure during start-up.

Faster and simpler maintenance through the use of standard units enables shorter downtime for servicing.



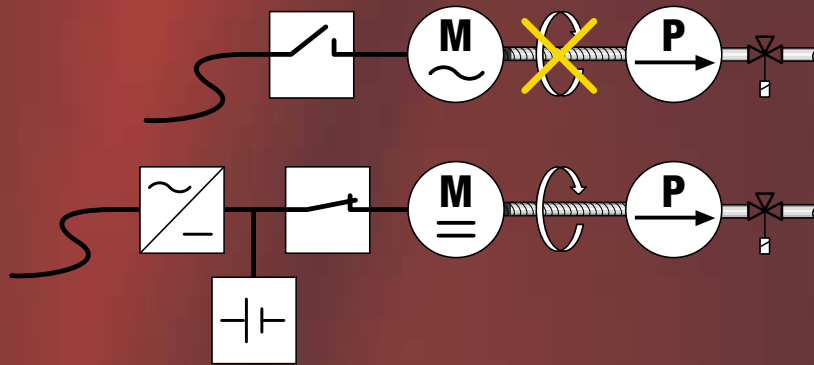
PROFESSIONAL ASSISTANCE

Kraftelektronik's engineering team reduce the lead time and workload for design of auxiliary power by assisting in the configuration and sizing of the UMD system. The team also assists with verification of the operation of the UMD system during turbine operation.

Kraftelektronik supports its partners every step of the way, from configuration to commissioning. Project effectiveness is ensured by the use standardized solutions that are easily adapted to meet the various installation demands of the global market with a range of options.

motor drives for turbines

The old solution

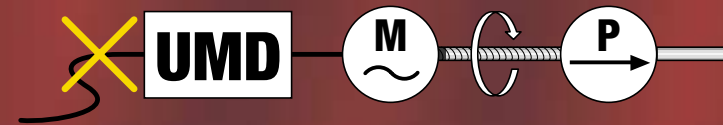


Classic back-up – redundant systems

Traditionally the means of ensuring essential pump availability is to use an additional standby system.

Normally this comprises a battery, charging rectifier, DC starter, DC motor, pump, pipes and valves. A DC motor has a slow start-up phase and therefore additional equipment is required to prevent the pressure from dropping in the pressurized system. This kind of standby design requires careful supervision and performance testing at regular intervals. For most applications this traditional solution gives adequate security, however it is expensive. It is also complicated and requires a lot of equipment to cope with an unreliable mains supply.

UMD by kraftelektronik

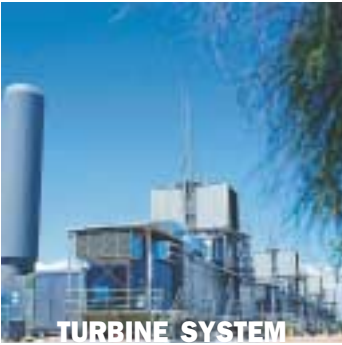


Enhanced security – smarter system

The UMD system continuously provides the pump system with a full power supply, without a pressure drop in the event of mains outage. The UMD system works online, which continuously proves its capability and minimizes the need for off-line tests. Additional features of UMD are:

- Fits for pumps, fans, jacking and barring, IGV, bleeder and fuel valves and similar applications for turbine installations.
- Integrated frequency converter for rpm and torque control.
- Full flow control eliminates the need for throttling valves.
- Process control is achieved by means of integrated functions.
- Start-up under heavy-duty loads is safely governed by torque control.
- Improves availability of the turbine by power loss ride through.
- Improved project efficiency Kraftelektronik's assistance.

Function	The old solution	UMD
Battery back-up	Yes	Yes
Requires AC motor	Yes	Yes
Spares DC motor	No	Yes
Eliminates standby system	No	Yes
Simplified in Ex installation	No	Yes
Supplied as single unit	No	Yes
Saves installation area	No	Yes
Cost reduction	No	Yes
Uninterrupted during mains outage	No	Yes
Full power during mains outage	No	Yes
Black start function	No	Yes
Energy saving by speed control	No	Yes
Control of torque	No	Yes
Quick start	No	Yes
Control by closed loop	No	Yes
Continuous monitoring	No	Yes



UMD special designed for demanding processes

The UMD system operates at the same security level as conventional solutions but gives the user higher availability, improved opportunities and increased business benefits. The system consists of frequency converter, battery, charging rectifier and internal protection. The components are made by leading international manufactures such as ABB, Yaskawa, Group Schneider, Exide and Saft. Easy installation by minimum of connections, only one AC supply which reduce the numbers of feeders in main switchgear. Krafterlektronik focuses on three business areas for the UMD.

Turbine systems

- Guarantees cooling, lubrication and ventilation
- Secures jacking and barring
- Controls IGV, bleeder and fuel valves
- Offers black start function

Hot processes

- Emergency cooling of boiler systems and metallurgical processes
- Guarantees cooling, lubrication and ventilation
- Secures conveyors

Hydroelectric power

- Secures the operation of the sluice gates
- Controls main throttle valves
- Guarantees turbine operation





Kraftelektronik – a powerful partner

For 70 years, Kraftelektronik has been one of the leading manufacturers of static converters in demanding industrial applications. Our mission is to offer concepts and products that deliver unique customer value through practical solutions that secure high operational reliability for the end user. We are the preferred supplier of many leading industrial companies.

Kraftelektronik is organized into three business areas:

DC systems division for failure-free power – supplying systems to partners in the engineering industry as well as nuclear power plants, hydroelectric power stations and other companies that need failure-free power. The UMD product is found under this business area. Our customers include ABB, Alstom Power, GE Power Systems, Siemens, Fortum, Sydkraft and Vattenfall.

Power supplies for electrostatic precipitators – developing and manufacturing high-voltage supplies and controls for powering electrostatic precipitators. We work closely with companies such as Alstom Power, Elwo and F.L.Smith Airtech, to name but a few.

Power supplies for electrochemical processes – supplying rectifiers for electrochemical processes, e.g. metal finishing, anodizing and PCB plating. Our customers are demanding industrial companies, such as Bosch, BMW, SAAB, Volvo, British Aerospace, Motorola and Sanmina.

Kraftelektronik creates customer benefit through offering smart functional solutions and reliable products. Our solutions improve project efficiency for engineering companies and increase process productivity for production companies. This leads to higher efficiency, cost reductions and an overall improvement in the reliability of systems and projects for our clients.

The company headquarters and main facility are located about 15 km north of Göteborg, Sweden. The DC systems division is located in Växjö, in southern Sweden. We also have sales and service offices in Portsmouth UK, Hong Kong and Shanghai. We are active in the international market. The company employs 100 people.

