Uninterruptible motor drive type UMD S400

Rated power 3 - 200kW @ 3x400V_{AC}

The UMD S400 is a complete system for uninterruptible motor drive for three phase AC-motors. For applications where high availability is required, e.g. oil pumps, fans, sluice gates etc.

Mains and battery supplied
Secures operation of AC-motors in critical processes from both the mains and battery supply.

High availability
UMD S400 with an AC motor increases system availability and reduces maintenance cost compared to additional standby systems with starter and DC motors.

Energy saving
Based on frequency converters with speed control saves energy and battery capacity.

Uninterruptible operation
Transition without interruption between mains and battery supply at full power. Quicker start up compared to a DC motor.

Battery status
Battery circuit test and symmetry monitoring for early detection of decreased performance of the battery. Battery temperature is monitored and the charging voltage is adjusted automatically.

Easy installation
Delivery of complete factory-tested system that saves space and is easy to install.

Uninterruptible motor drive - S400

General

The UMD S400 is a system intended for the uninterruptible operation of AC motors that can be powered not only from the existing mains supply but also from the batteries. The UMD S400 is a complete system that consists of batteries and UMD cabinet. The UMD cabinet in its turn can, depending on requirements, contain - rectifier, frequency converter for motor drive, frequency converter for UPS, DC/DC-converter, AC and DC distribution, transformers and filters, motor protection and UPS-distribution.

Input DC

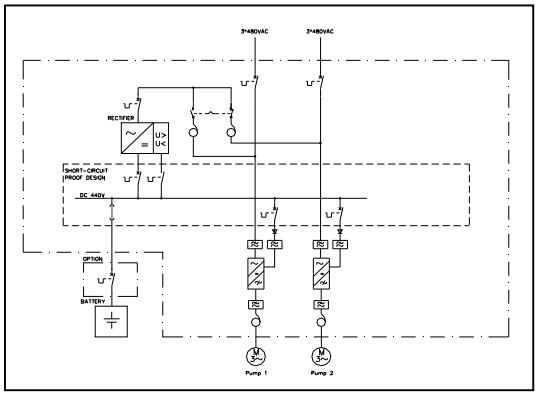
Input voltage:	440V_{DC}, ±15%
Connection:	Terminal block

Input AC

Input voltage:	3x380/415/480/600V_{AC}, ±10%
Frequency:	45 – 65 Hz
Power factor:	> 0.95 at 3x400 V_{AC}, full load
Connection:	Terminal block
Other:	See table 1 & 2

Motor Power (typical)		Rated output current	System enclosure, height 2200mm, IP21		
at 3x400V_{AC}/50Hz			Width		Depth
			single drive	double drive	
kW	Hp	A	mm	mm	mm
3	4	6,3	840	1540	654
4	5	8,2	840	1540	654
5,5	7,5	10,9	840	1540	654
7,5	10	14,5	840	1540	654
11	15	21,1	840	1540	854
15	20	28,6	840	1540	854
18,5	25	34	840	1540	854
22	30	41	840	1540	854
30	40	54,7	840	1540	854
37	50	66,4	1540	1540	854
45	60	80,4	1540	2240	854
55	75	94	1540	2240	854
75	100	136	1640	3240	854
90	125	158	1640	3240	854
110	150	192	1640	Contact KP	854
132	179	228	2360		854
160	217	273	3100		854
200	272	341	3100		854

Table 1, rated power for the drives and the enclosure size for one, and two drives. Contact KraftPowercon for suggestions on system with more drives.



Single line diagram UMD S400 - example of dual pump drives.

Output AC

Type:	Sinusoidal
Output voltage, nominal:	3x380/415/480/600VAC, ±10%
Connection:	Terminal block
Efficiency	>91%
Other:	See table 1

Enclosure

Type:	Floor cabinet
Cable entrance:	from bottom or above
Size:	See table
Color:	RAL 7035 light grey
IP-enclosure:	IP21
Ventilation:	Natural (fans in drive and rectifier)

Standards

Safety:	EN 50178
EMC, immunity:	EN/EC 61000-2, -4
EMC, emission:	EN/EC 61800-3
Battery installations:	EN 50272-2

Environment

Ambient temperature:	Operation, 0 till +40 °C Storage, -40 till +70 °C
Humidity:	< 95 % RH, non-condensed
Altitude a.s.l:	< 1000 m, ≤2000 m by derating

Options

UPS-output,	3x400/415V_{AC}/50/60Hz
UPS-output,	24V_{DC}
Output for engine brake	
Thermistor relay	
Control of motor heaters	
IP-enclosure,	IP43-IP54 (floor cabinet)
Temperature	0-50°C by derating
Commissioning	
Extended approval	UL (USA) CSA (Canada)

KRV 120GB-G

Rated power batteries (kW)				Battery capacity	Battery rack + VRLA batteries			
					size (mm)			weight
1 min	5 min	30 min	60 min	Ah	width	depth	height	kg
25	24	11	7	35	600	715	1704	526
35	33	15	9	50	1050	360	1746	661
43	40	19	11	60	1050	360	1779	831
63	59	27	17	90	1050	500	1786	1073
65	61	29	18	105	1200	715	1745	1286
76	72	36	23	125	1200	715	1799	1704
91	84	42	27	155	1200	715	1799	1915
107	101	53	35	200	2550	500	1766	2442

Table 2, size of rack mounted batteries with different back-up times and load capacity. Other sizes and types of batteries available on request.

Operator's control panel

CE

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