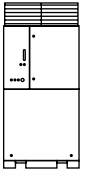


XMV670

Compact design.
Low-voltage supply option.
Increased power density.
Full frontal access.





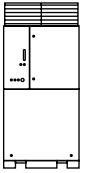
INPUT	Input voltage (kV)	2.3 kV to 13.8 kV ($\pm 10\%$), LV option
	Frequency	50/60 Hz ($\pm 5\%$)
	Power factor	>0.95 (over 20% load)
	THDi (%) current ^[1]	$<5\%$
	Power transformer	Phase-shift transformer, dry type (18 or 30)
	Overvoltage protection (optional)	Surge Arresters (Input cell or XMVK according to frame size)
	Overcurrent protection (optional)	Cell with circuit breaker or fuses
	Voltage dip	IEC/EN 61000-4-34
	Grid bypass (optional)	Up to 5 bypass cells with grid synchronization
OUTPUT	Technology	Multi-level, pulse-width modulation, low voltage power modules connected in series
	Output voltage (kV)	2.3 kV, 3 kV, 3.3 kV, 4.16 kV, 6 kV, 6.6 kV
	Pulses / power modules in series	18p/3, 30p/5
	Power modules (A)/(V)	80 A, 150 A, 240 A, 300 A, 480 A @ 40 °C / 650 V - 825 V
	Overload capacity	120% Inom (60 s/10 min) 40 °C 150% Inom (60 s/10 min) 50 °C
	Current harmonic distortion THDi	$<5\%$
	Harmonic Voltage Factor (HVF)	$<2\%$ (No motor derating required)
	Frequency	0.5 to 599 Hz ^[2] (0.01 Hz accuracy)
	Efficiency	$\geq 96\%$ (including transformer)
	Output voltage boosting	Transformer with adjustable taps
ENVIRONMENTAL RATINGS	Output inductance (optional)	Additional cabinet (500 mm)
	Operation conditions	Indoor, no caustic and volatile air, no dust
	Degree of protection	IP41, IP42
	Operation temperature	-20 °C to +50 °C; >40 °C power derating 2%/°C Pn
	Storage temperature	-25 °C to +70 °C
	Humidity	$<95\%$, not condensing, optional heating
	Altitude	<1000 m; >1000 m power derating 1%/100 m. Max. 4000 m (optional >4000 m with overvoltage protection)
	Seismicity	UBC4/High level IEEE 693:2018 ^[3]
	Ventilation	Forced, redundancy optional or channelling
	Noise	<80 dB at 1 m
CONTROL	Control mode	Local control (Graphic display 2.8") + emergency switch Remote Control I/O (optional)
	Control method	V/Hz VECTOR CONTROL Open Loop: PMC speed / torque control, AVC speed / torque control Close Loop (Encoder): PMC speed / torque control, AVC speed / torque control
	Carrier frequency	381 - 1526 Hz
	Control power supply	External 220-230 Vac or 110-120 Vac + 2nd MV transformer
	Other characteristics	Voltage/Power ride through, quick setting and commissioning, master-slave synchronization, skip critical frequencies, delay-off IGBT, motor pre-magnetization, flux reduction at low load (energy saver), electric DC brake, multi-reference and speed ramp, Power PLC programming. Other, please consult Power Electronics.
LOCAL CONTROL PANEL	Display	Graphic display 2.8" TFT-LCF
	HMI (optional)	Touchscreen HMI 7" or 10"
	Connection	USB, 3 m
	Features	8 GB microSD class 10, faults and events logs and notification, save and copy the parameters, coded access to parameters with password.
	Display LED	GREEN: Motor running Blinking GREEN: Warning RED: Fault

NOTES

[1] Harmonics are below the limits defined in IEEE519 for all SC/IL.

[2] For operational frequencies higher than 100 Hz, please consult Power Electronics.

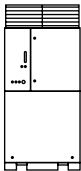
[3] Need for specific anchors to the ground to meet this degree and installation conditions, without anchoring UBC3/Moderate Level IEEE 693.



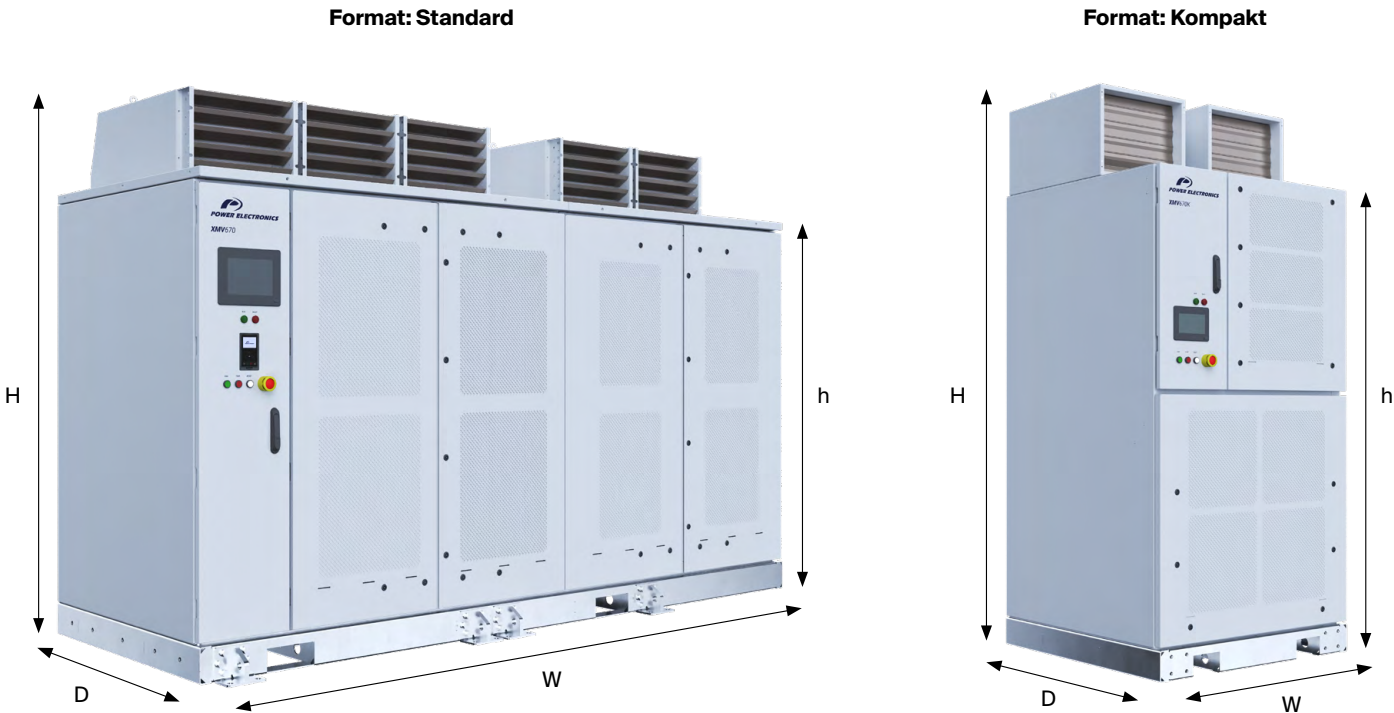
LOCAL CONTROL PANEL	Display information	Average current and 3-phase motor current, Average voltage and 3-phase motor voltage, 3-phase input voltage, Drive status, Speed, Torque, Power, Power factor of motor, Individual modules status, Register of total and partial drive energy consumption status (kWh) with reset function, Relay status, Digital inputs/PTC status, Output comparator status, Analogue inputs and sensor values, Analogue output value, Motor overload and equipment status, Drive and rectifier temperature, Fault history (last 6 faults).
	Visualization LEDs (optional)	GREEN: Running Blinking GREEN: Warning RED: Fault
	Push buttons (optional)	GREEN: Local start RED: Local stop WHITE: Fault reset
USER INTERCONNECTION	Digital inputs	4 programmable, Active high (24 Vdc), Isolated power supply 5 pre-configured (Start/Stop, Reset, Control mode, Reference, spare) (optional) 1 PTC Input
	Analogue inputs	1 standard input + optional 2 programmable and differential (0–20 mA, 4–20 mA, 0–10 Vcc and ± 10 Vcc). Optically isolated 8 RTD inputs (optional)
	Digital outputs	3 programmable changeover relays (250 Vca, 8 A o 30 Vcc, 8 A) 5 pre-configured contacts (Start/Stop, Warning, Fault, spare) (optional)
	Analogue outputs	1 standard output + optional 2 programmable isolated: 0 – 20 mA, 4 – 20 mA, 0 – 10 Vcc and ± 10 Vcc
	Encoder (optional)	2 differential encoder input (process and vector control). Input signal from 5 to 24 Vdc
COMMUNICATIONS	Standard hardware	Ethernet, RS485
	Standard protocol	Modbus-RTU and Modbus-TCP
	Optional protocol	Profibus-DP, Profinet, Ethernet IP
PROTECTIONS	Motor protections	Rotor locked, Torque limit, Motor overload (thermal model), Output current limit, Phase current imbalance, Ground fault current, Phase voltage imbalance, Motor over-temperature (PTC), Speed limit, Excessive starting and stopping time.
	Drive protections	Input phase loss, Low input voltage, High input voltage, Maximum number of faulty modules, High input frequency, Low input frequency, Drive overload, Drive over-temperature, Analogue input signal loss (speed reference loss), communication loss (time-out), power supply fault, Emergency stop.
	Power modules protections	Input overcurrent (fuses), High and Low DC bus voltage, DC bus voltage instability, DC bus soft charge fault, Low input voltage, Fiber optics communication lost, Communication time overpassed (time-out), Control voltage lost, Gate drive fault, Power module overtemperature.
REGULATION	Electromagnetic compatibility	EMC 2014/30/EU IEC/EN 61800-3 IEEE 519
	VSD design and construction	IEC/EN 61800-2 General requirements IEC/EN 61800-5-1 Safety IEC/EN 60146-1-1 Semiconductor converters UL 347A MV drives (4.16 kV models only)
	MV Transformer	IEC/EN 60076 -1, -3, -11 IEC/EN 61378-1

NOTES

- [1] Harmonics are below the limits defined in IEEE519 for all SC/IL.
 [2] For operational frequencies higher than 100 Hz, please consult Power Electronics.
 [3] Need for specific anchors to the ground to meet this degree and installation conditions, without anchoring UBC3/Moderate Level IEEE 693.



DIMENSIONS



Output voltage	Input voltage	Format	Rated Current		Width W (mm)	Depth D (mm)	Height h (mm)	Height H (mm)	Weight (kg)
			40 °C Normal duty	50 °C Heavy duty					
4.16 kV	4.16 kV	Kompakt	< 80 A	< 60 A	1210	1250	2300	2737	2300
		Kompakt	81 A - 150 A	61 A - 120 A	1610	1250	2300	2737	3850
		Kompakt	151 A - 240 A	121 A - 192 A	1700	1500	2300	2737	5050
		Standard	241 A - 300 A	193 A - 240 A	3850	1500	1957	2325	8100
		Standard	301 A - 480 A	241 A - 384 A					9500
	10 - 13.8 kV	Standard	151 A - 240 A	121 A - 192 A	3000	1250	1930	2330	*
6.6 kV	6.6 kV	Standard	241 A - 480 A	193 A - 384 A	4150	1500	1957	2325	*
		Kompakt	< 80 A	< 60 A	1610	1250	2300	2737	3415
		Kompakt	81 A - 150 A	61 A - 120 A	2000	1500	2300	2737	5200
		Standard	151 A - 240 A	121 A - 192 A	3500	1250	1930	2300	7000
		Standard	241 A - 300 A	193 A - 240 A	5500	1500	1957	2325	10590
		Standard	301 A - 480 A	241 A - 384 A					12960
	10 - 13.8 kV	Standard	151 A - 240 A	121 A - 192 A	4000	1500	1930	2300	*
		Standard	241 A - 480 A	193 A - 384 A	6000	1500	1957	2325	*

NOTES
 * Consult with Power Electronics.