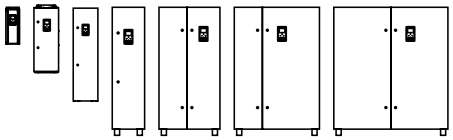
SD750SP

Solar assisted.
Reduces the levelized cost of water.

SD750SP



INPUT	Power range [1]	1.5 kW – 1000 kW
	Voltage range AC	380 – 480 Vac (±10%),
	Voltage range DC	540 – 1000 Vdc (Frames 1 and 2 up to 830 Vdc)
	Input frequency	50 Hz/60 Hz (±6%)
	Input rectifier technology	Diode-Diode Frames 1 and 2 / Thyristor-Diode Frames 3 to 8
	Displacement power factor (DPF = cos φ)	≥0.98
	Power factor (PF= i1/irms· cos φ)	≥0.91
	Momentary power loss	>2 s (depending on the load inertia)
	EMC input filter	Second environment (Industrial): (C3 Standard) First environment (Domestic): C2 (Optional). C1 consult Power Electronics Optional IT filter
	Harmonics filter	Choke coils 3% impedance
	Current THD (%)	<40%
	Regenerative	No
OUTPUT	Output frequency [2]	0...599 Hz
	Overload capacity	Constant torque: 125% during 30 s at 50 °C
	Efficiency (at full load)	≥98%
	Control method	V/Hz VECTOR CONTROL Open Loop. PWM speed control / torque, AVC: speed control / torque Close Loop (Encoder): PWM speed control / torque, AVC: speed control / torque PMSM I/f, sensorless and HEPOL (High Efficiency Performance Open Loop)
	Carrier frequency	4 to 8 kHz – PEWave
	Output dV/dt filter	500 to 800 V/µs
	Output cable length [3]	USC 300 m, SC 150 m
	Dynamic brake	External B150 Dynamic Brake (Integrated in Frames 1 and 2)
ENVIRONMENTAL CONDITIONS	Operation ambient temperature	Minimum: -20 °C Maximum: +50 °C
	Storage temperature	Minimum: -40 °C Maximum: +70 °C
	Altitude	1000 m
	Power altitude derating [1]	> 1000 m, 1% PN (kW) per 100 m; 4000 m maximum
	Ambient humidity	<95%, non-condensing
	Degree of protection	IP20[4], IP54[5], IP42[6]
	Vibration	Amplitude: ± 1 mm (2 Hz-13.2 Hz), ± 0.075 mm (13.2 Hz-57 Hz) Acceleration: 6.86 m/s² (13.2 Hz-57 Hz), 9.8 m/s² (57 Hz-150 Hz)
	Heating resistors	Optional
	Conformal Coated Electronics	Class 3C3
PROTECTIONS	Motor protections	Rotor Locked, Motor overload (thermal model), Output current limit, Phase current imbalance, Phase voltage imbalance, Motor overtemperature (PT100 signal), Speed Limit, Torque Limit
	Drive protections	IGBT's Overload, Input Loss, Low Input Voltage, High Input Voltage, DC Bus, Voltage Limit, DC Bus Low Voltage, High Supply Frequency, Low Supply Frequency, IGBT Temperature, Heat-sink overtemperature, Power supply fault, Drive thermal model, Ground Fault, Software and Hardware fault, Analog Input signal loss (speed reference loss), Safe stop / Emergency stop
HARDWARE	Digital inputs	6 programmable, Active high (24 Vdc), Isolated power supply
	Digital outputs	3 programmable changeover relays (250 Vac, 8 A or 30 Vdc, 8 A)
	Analogue input	3 programmable differential inputs: 0-20 mA, 4-20 mA, 0-10 Vdc and ±10 Vdc, PT100. (Optically isolated).
	Analogue outputs	2 isolated programmable outputs: 0-20 mA, 4-20 mA, 0-10 Vdc and ±10 Vdc

NOTES

[1] Consult availabilty with Power Electronics.
[2] For operation frequencies higuer than 100 Hz consult Power Electronics.
[3] SC: Shielded cable, USC: Unshielded Cable. Follow Power Electronics installation reommendations.
For greater cable lenghts, consult Power Electronics.
[4] Available for 380–480 Vac up to frame 4.
[5] Applicable to the electronics.
[6] For stand-alone models.

POWER ELECTRONICS

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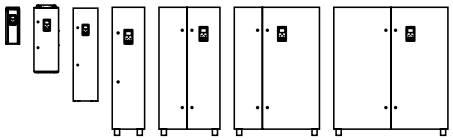

HARDWARE	Encoder inputs (optional)	1 differential encoder input. Voltages inputs from 5 to 24 Vdc
	User power supply	+24 Vdc user power supply (Max. 180 mA) regulated and short-circuit protected +10 Vdc user power supply (Max. 2 potentiometers R=1 kΩ) regulated and short-circuit protected
	I/O Extension board (optional)	Digital I/O board: 5 Digital inputs: Programmable inputs and active high (24Vdc). Optically isolated 5 Digital outputs: programmable multi-function relays Analogue I/O board: 2 Analogue input: Programmable and differential input 2 Analogue output: Programmable outputs in voltage/current
	External power supply (optional)	24 V External power supply
	SD card	Port for an external SD Card. Data Logging, events registration
COMMUNICATION	Standard hardware	USB port RS485 port Ethernet
	Optional hardware	Optical fiber Communication Cards
	Standard protocol	Modbus-RTU Ethernet (Modbus TCP)
	Optional protocol	Profibus-DP Ethernet IP ProfiNet
CONTROL PANEL	Type	Removable
	Length	3 meters and 5 meters (optional)
	Connection	USB
	Visualization leds	LED RUN: Motor receiving power supply LED FAULT: Flashing displays that a fault has occurred
	LCD display	LCD screen Keypad with 8 keys to control and configure the drive, start and stop / reset Independent memory Wi-Fi communication module (optional)
	Display information	Average current and 3-phase motor current Average voltage and 3-phase motor voltage Average input voltage and 3-phase input voltage 3-phase motor input and output frequency DC Bus Voltage
	Others	Drive Status Speed, Torque, Power, Power Factor of the motor Register of total and partial drive running time with reset function (hours) Register of total and partial drive energy consumption with reset function (kWh) Relay status Digital inputs / PTC status Output comparator status Analogue inputs and sensor values Analogue outputs value Motor and equipment overload status IGBT and rectifier temperature Fault history (last 6 faults) Real time clock Perpetual calendar
REGULATIONS	Certifications	CE, cTick
	Electromagnetic compatibility	EMC Directive (2004/108/CE) IEC/EN 61800-3
	Design and construction	LVD Directive (2006/95/CE) IEC/EN 61800-2 General requirements IEC/EN 61800-5-1 Safety IEC/EN 60146-1-1 Semiconductor converters IEC60068-2-6 - Vibration
	Functional safety	IEC/EN 61800-5-2 Safety Stop (STO)

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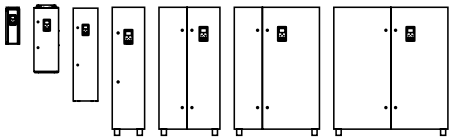

DIMENSIONS

Frame: 2

Frame: 7

Frame	Width W (mm)	Depth D (mm)	Height H (mm)	Weight (kg)
1	191	273	507	17
2	296	323	510	29
3	301	359	854	61
4	320	465	1251	85
5	431	529	1715	168
6	782	528	1715	287
7	1132	529	1715	441
8	1482	529	1715	576

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