

DS300C

FREQUENCY CONVERTERS

10-800kVA

50Hz, 60Hz, 400Hz

High Reliability

DSP Control



TOWER



SERVICE /
TECH. SUPPORT



ECO FRIENDLY



1.0

POWER FACTOR



DELTRON DS300C Frequency Converters are produced to provide the energy for your devices, which are powered by AC voltage and requires different frequency ranges. Our converters, which have many usage areas, mainly in maritime, aviation, industrial equipments and military applications, are designed for continuous operation with PWM and IGBT technology and convert 50Hz or 60Hz mains energy to 50Hz, 60Hz or 400Hz energy to supply your critical loads.

Next pages of this catalog, you will find the technical specifications of 380VAC-60Hz converters, 208VAC-60Hz and 400Hz converters with inverter galvanic isolation transformers within 10-250KVA power range and 3/3 phase systems. Please contact with your sales representative for your different requests and questions.

GENERAL SPECIFICATIONS

- DSP control
- 3-Level technology and fully digital structure (*)
- Less electronic components and SMD technology
- Low input current harmonic distortion (THDI)
- High input power factor
- High efficiency up to %95
- Selectable input/output frequency range within 50-60Hz
(For only DS300HC-60 models)
- High output power factor (PF:1.0)
- Advanced control and protection at input
- Current limitation at output, DC leakage, short circuit and overload protection
- Advanced TFT front panel (For 40kVA and above) (*)
- Advanced diagnostic, easy monitoring and service intervention
- 512 event logs (46.000 alarm) (*)
- Clock and calendar (battery supported)
- Advanced communication
- 2 RS232 serial ports and programmable 4 dry contact outputs
(12 contacts optional) (*)
- External REPO input
- Optional SNMP, MODBUS and Remote Monitoring Panel
- Advanced remote control features
- Security with user and centralized service password (OTP)
- Compliant with IEC EN62040 directive
- Conforms to CE, TSE and GOST standards
- ISO9001, ISO14001 compliant production
- 2 years warranty

(*) For detailed product specs, please check the specification tables.



TECHNICAL SPECIFICATION COMPARISION TABLE

	DS300HC-60		DS300HTC-60		DS300TC-400	
	60Hz 380-400VAC		60Hz 208VAC		400Hz 208VAC	
	10-30kVA	40-200kVA	10-30kVA	40-200kVA	10-30kVA	40-200kVA
2 Line LCD Display					✓	✓
4 Line LCD Display	✓		✓			
4.3" TFT Display		✓		✓		
Mimic LED Diagram	✓		✓		✓	✓
Alarm Logging (512)	✓	✓	✓	✓		
Alarm Logging (128)					✓	✓
RS232 Serial Port					✓	✓
2xRS232 Serial Port	✓	✓	✓	✓		
3 x Dry Contacts					✓	✓
4 x Dry Contacts	✓	✓	✓	✓		
Galvanic Isolation (Inverter Transformer)			✓	✓	✓	✓
Optional SNMP MODBUS, GSM	✓	✓	✓	✓	✓	✓
Optional + 8 Dry Contacts	✓	✓	✓	✓		
Optional External Input Isolation Transformer	✓	✓	✓	✓	✓	✓
Optional External Output Isolation Transformer	✓	✓				

MODEL	DS310HC-60	DS315HC-60	DS320HC-60	DS330HC-60	DS340HC-60	DS360HC-60	DS380HC-60
Power (kVA)	10	15	20	30	40	60	80
INPUT							
Voltage (ui/Ui)*	220/380 VAC 3P + N + G ± 20%						
Frequency**	50Hz ± 10%						
Power factor (@100% load)	≥ 0,99						
THDI	≤ 3%						
Rectifier soft start time	Minimum 3 sec.						
Protections	Fuses, Voltage and Frequency tolerance, Input power limit, Phase sequency indicator, Input contactor						
OUTPUT							
Power (kW)	10	15	20	30	40	60	80
Power factor	1,0 (0,8 and 0,9 Optional)						
Voltage (uo/Uo)*	220/380 VAC 3P + N + G						
Voltage THD	≤ 3% (linear load)						
Frequency**	60Hz ± 0.25%						
Voltage tolerance	± 1% (linear load) ± 5% (dynamic load)						
Recovery time (Dynamic load)	< 50 ms						
Efficiency (@100% load input voltage tolerance ± 1,5% transformer excluded)	≥ 93,0%		≥ 93,5%				≥ 94,8%
Crest factor (@100% load)	3:1						
Overload capacity	5 min. at 125% load, 40ms at 150% load					10 min. at 125% load, 60sec. at 150% load, 40ms at 200% load	
Protections	Advanced short circuit, Voltage tolerance protection, DC balance, Regenerative load, Current limiting protections						
GENERAL							
Standards	EN62040-1, EN62040-2, EN62040-3						
User interface	4 lines LCD panel, Mimic led panel, 5 vector buttons, Buzzer				TFT panel, 5 vector buttons, Buzzer		
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service time						
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232, Operating hour meter						
Communication	2xRS232 serial port, 4 standard and 8 optional dry contacts						
Inputs	EPO input, Interactive battery breaker input, Genset input						
Software	Standard T-Mon software (3 clients + 1 server management)						
Alarm logging	Standard: with time & date 512 events						
Other protections	Load protection in case of failure, Power module overheat, Overcurrent, Overheat, Input voltage and frequency, Output voltage and frequency, Phase loss protection, Output DC leakage, Short circuit, DC high, DC low Protections						
Temperature range	0°C +40°C (operation) / -15°C +45°C (storage)						
Protection degree*	IP20						
Relative humidity	20% - 90%						
Altitude	≤ 1000m: 100%; > 1000m: Maximum 0.6% derating per 100m (3000m: 88% rated power with 12% derating)						
Acoustic noise	< 57dBA				< 62dBA		
Net weight (kg)	< 87	< 87	< 91	< 100	< 173	< 197	< 209
Dimensions (mm) HxWxD	1040x400x815				1440x515x855		
OPTIONS							
Different input/output voltage, Uninterruptible operation (battery included), Parallel operation, IP degree	Please ask						
Galvanic isolation transformer at input/output	Optional as external						
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer						
(*) Please ask for different options.							
(**) DS300HC-60 series 50Hz input -> 60Hz output converters can also be used as 60Hz input -> 50Hz output by adjusting parameters.							

MODEL	DS310HTC-60 208V	DS315HTC-60 208V	DS320HTC-60 208V	DS330HTC-60 208V	DS340HTC-60 208V	DS360HTC-60 208V	DS380HTC-60 208V
Power (kVA)	10	15	20	30	40	60	80
INPUT							
Voltage (ui/Ui)*	220/380 VAC 3P + N + G ± 20%						
Frequency**	50Hz ± 10%						
Power factor (@ 100% load)	≥ 0,99						
THDI	≤ 3%						
Rectifier soft start time	Minimum 3 sec.						
Protections	Fuses, Voltage and Frequency tolerance, Input power limit, Phase sequence indicator, Input contactor						
OUTPUT							
Power (kW)	10	15	20	30	40	60	80
Power factor	1,0 (0,8 and 0,9 Optional)						
Voltage (uo/Uo)*	120/208 VAC 3P + N + G						
Voltage THD	≤ 3% (linear load)						
Frequency	60Hz ± 0.25%						
Voltage tolerance	± 1% (linear load) ± 5% (dynamic load)						
Recovery time (Dynamic load)	< 50 ms						
Output isolation transformer	Galvanic isolation transformer integrated into the internal inverter						
Efficiency (@100% load input voltage tolerance ± 1,5% transformer included)	≥ 91,1%		≥ 91,6%				≥ %92,6
Crest factor (@ %100 load)	3:1						
Overload capacity	5 min. @125%, 40ms @150% load					10 min. at 125% load, 60sec. at 150% load, 40ms at 200% load	
Protections	Advanced short circuit, Voltage tolerance protection, DC balance, Regenerative load, Current limiting protections						
GENERAL							
Standards	EN62040-1, EN62040-2, EN62040-3						
User interface	4 line LCD panel, Mimic led panel, 5 vector buttons, Buzzer				TFT panel, 5 vector buttons, Buzzer		
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service time						
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232, Operating hour meter						
Communication	2xRS232 serial port, 4 standard and 8 optional dry contacts						
Inputs	EPO input, Interactive battery breaker input, Genset input						
Software	Standard T-Mon software (3 clients + 1 server management)						
Alarm logging	Standard: with time & date 512 events						
Other protections	Load protection in case of failure, Power module overheat, Overcurrent, Overheat, Input voltage and frequency, Output voltage and frequency, Phase loss protection, Output DC leakage, Short circuit, DC high, DC low Protections						
Temperature range	0°C +40°C (operation) / -15°C +45°C (storage)						
Protection degree*	IP20						
Relative humidity	20% - 90%						
Altitude	≤ 1000m: 100%; > 1000m: Maximum 0.6% derating per 100m (3000m: 88% rated power with 12% derating)						
Acoustic noise	< 55dBA		< 60dBA			< 62dBA	
Net weight (kg)	187	198,5	244	270	393	457	536
Dimensions (mm) HxWxD	1040x400x815				1440x515x855		
OPTIONS							
Different input/output voltage, Uninterruptible operation (battery included), Parallel operation, IP degree	Please ask						
Transformer	Galvanic isolation transformer at the input (external)						
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer						
(*) Please ask for different options.							

MODEL	DS3100HTC-60 208V	DS3120HTC-60 208V	DS3160HTC-60 208V	DS3200HTC-60 208V	DS3250HTC-60 208V
Power (kVA)	100	120	160	200	250
INPUT					
Voltage (ui/U _i)*	220/380 VAC 3P + N + G ± 20%				
Frequency**	50Hz ± 10%				
Power factor (@ 100% load)	≥ 0,99				
THDI	≤ 3%				
Rectifier soft start time	Minimum 3 sec.				
Protections	Fuses, Voltage and Frequency tolerance, Input power limit, Phase sequency indicator, Input contactor				
OUTPUT					
Power (kW)	100	120	160	200	250
Power factor	1,0 (0,8 and 0,9 Optional)				
Voltage (u _o /U _o)*	120/208 VAC 3P + N + G				
Voltage THD	≤ 3% (linear load)				
Frequency	60Hz ± 0.25%				
Voltage tolerance	± 1% (linear load) ± 5% (dynamic load)				
Recovery time (Dynamic load)	< 50 ms				
Output isolation transformer	Galvanic isolation transformer integrated into the internal inverter				
Efficiency (@100% load input voltage tolerance ± 1,5% transformer included)	≥ 92,6%		≥ 93,0%		
Crest factor (@ 100% load)	3:1				
Overload capacity	10 min. @125% load, 60sec. @150% load, 40ms @200% load				
Protections	Advanced short circuit, Voltage tolerance protection, DC balance, Regenerative load, Current limiting protections				
GENERAL					
Standards	EN62040-1, EN62040-2, EN62040-3				
User interface	TFT panel, 5 vector buttons, Buzzer				
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service time				
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232, Operating hour meter				
Communication	22xRS232 serial port, 4 standard and 8 optional dry contacts				
Inputs	EPO input, Interactive battery breaker input, Genset input				
Software	Standard T-Mon software (3 clients + 1 server management)				
Alarm logging	Standard: with time & date 512 events				
Other protections	Load protection in case of failure, Power module overheat, Overcurrent, Overheat, Input voltage and frequency, Output voltage and frequency, Phase loss protection, Output DC leakage, Short circuit, DC high, DC low Protections				
Temperature range	0°C +40°C (operation) / -15°C +45°C (storage)				
Protection degree*	IP20				
Relative humidity	20% - 90 %				
Altitude	≤ 1000m: 100%; > 1000m: Maximum 0.6% derating per 100m (3000m: 88% rated power with 12% derating)				
Acoustic noise	< 67 dBA				< 71 dBA
Net weight (kg)	539	595	647	910,5	1150
Dimensions (mm) HxWxD	1770x825x855			1900x1250x1055	
OPTIONS					
Different input/output voltage, Uninterruptible operation (battery included), Parallel operation, IP degree	Please ask				
Transformer	Galvanic isolation transformer at the input (external)				
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer				
(*) Please ask for different options.					

DS300TC-60 TECHNICAL SPECIFICATIONS

MODEL	DS3650TC-60	DS3800TC-60
Power (kVA)	650	800
INPUT		
Voltage	380/400 VAC 3P + N + G ± 20%	
Frequency	50Hz / 60Hz, ± 10%	
Power factor	≥ 0.99	
THDI (*)	≤ 3%	
Protections	Fuses, Voltage and Frequency tolerance, Input power limit, Phase sequency indicator, Input contactor	
OUTPUT		
Power (kW)	585	720
Power factor	0.9	
Voltage	440 VAC 3P + N, ± 1%	
Frequency	60Hz	
Frequency tolerance	± 0.1%	
Efficiency	Up to 94%	
Crest factor	3:1	
Overload protection (**)	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass	
Pther protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting	
Voltage THD	≤ 2% (at 100% linear load)	
BATTERIES (OPTIONAL FOR UNINTERRUPTIBLE FREQUENCY CONVERTER)		
Type	VRLA AGM / GEL / NiCd	
Nominal voltage	± 336 VDC (2x28 batteries)	
Battery number	2x28 batteries	
Float charging voltage	± 378 VDC	
End of discharge voltage	± 280 VDC	
Battery cabinet	External	
Battery operating temperature	25°C	
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)	
Battery test	Standard every 72 hours (adjustable)	
GENERAL		
Standards	EN62040-1, EN62040-2, EN62040-3	
Interface	Colorful TFT panel, 5 vector buttons, Buzzer	
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time	
Advanced	Self diagnostics, 3 maintenance indicators, calibration system via RS232, Working hours indicator	
Communication	RS232 serial ports, 4 standard and 8 optional DRY contact	
Inputs	EPO (emergency shutdown) input, Interactive battery panel input, Generator input	
Generator kit	Standard (programmable)	
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)	
Alarm logging	Standard: with time & date 512 events	
Protection	Power module over-temperature, Over current, Temperature high alarm	
Operating temperature	0°C - 40°C	
Protection class	IP20	
Humidity	90% max. (non-condensing)	
Altitude	< 1000m above sea level	
Acoustic noise	< 72dBA	
Net weight (kg)	2800	2980
Dimensions (mm) HxWxD	1980x3055x1050	
OPTIONS		
Different input/output voltage	Please ask	
Transformer	Galvanic isolation transformer at input (optional)	
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients	
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer	
Parallel operation	Up to 8 units	
(*) Depending on power and input/output conditions (**) Overload waiting times vary depending on the ambient temperature		

