

## DS200FD

### 10-120kVA

3-Level Technology

IGBT Rectifier

DSP Control



TOWER



SERVICE /  
TECH. SUPPORT



ECO FRIENDLY



Tescom DS200FD Series has been specially developed for railway applications. The new DS Power range UPS uses the latest DSP technology to be programmed to suit a wide variety of electrical environments without impeding its performance. With the DS200FD Series, efficiency, reliability and functionality are enhanced to levels unattainable with the old analogue technology. This technology does not only create significant increase in MTBF, but the capability of DSP to accurately manipulate signals at very high speed permits all the UPS subsystems to be controlled with greatly increased precision.

## GENERAL SPECIFICATIONS

- 3 phase or 1 phase input voltage
- High charging current capacity
- 3 Level topology
- High input power factor
- High efficiency up to 94%
- Cold start function
- Static and maintenance by-pass switch
- Output short circuit and overload protection
- External REPO switch input
- 512 events memory (512 events 45000 alarms)
- Clock and calendar (battery supported)
- Automatic battery test, remaining battery time indicator
- Temperature compensated charge system
- 2 RS232 serial ports and 12 dry contact outputs
- 3 DSP controlled modular structure
- Optional SNMP and MODBUS adaptors
- Optional graphical panel
- Optional usb flash memory
- Full digital structure
- Small footprint
- Ecomode operation (optional)
- Fewer electronic components
- Output current limiting
- Advanced diagnostics for the input
- Selectable input/output voltage/frequency/range
- Split by-pass input (second input)
- Output DC leakage protection
- Separate DSP for inverter control
- Separate DSP for the PFC
- 3 level battery protection
- High charge current capacity
- Charge/discharge current indicator
- Advanced remote control
- Manufactured according to EC Directive; EN62040
- 10 years spare parts support
- 2 years warranty

## TECHNICAL SPECIFICATIONS

MODEL	DS210FD	DS220FD	DS230FD	DS240FD	DS250FD	DS260FD	DS280FD	DS2100FD	DS2120FD	
Power (kVA)	10	20	30	40	50	60	80	100	120	
<b>INPUT (1 phase or 3 phase)</b>										
Voltage	380/400 VAC 3P + N + G OR 220/230 VAC 1P + N + G									
Voltage tolerance	± 20%									
Frequency	40-70 Hz									
Power factor (@ 100% load)	≥ 0.99									
THDI (@ 100%load)	≤ 5% (working in 1 Phases), ≤ 10% (working in 3 Phases)									
By-pass voltage	220/230 VAC 1P + N, ± 10% / 50Hz ± 1%									
Protections	Fuses, Voltage & Frequency Tolerance, Input Power Limit, Phase Sequence Indicator									
<b>OUTPUT (1 phase)</b>										
Power (kW)	9	18	27	36	45	54	72	90	108	
Power factor	0,9									
Output isolation transformer	Optional									
Voltage	220/230 VAC 3P + N, Static tolerance ≤ 1%, Dynamic tolerance ≤ 5% (Recovery time to 1% 20ms)									
Voltage THD	≤ 2% (@ 100% linear load) , ≤ 5% (@ nonlinear load)									
Frequency	50Hz / 60Hz (Output frequency adjustment)									
Frequency tolerance	Line synchronized: ± 2% (± 1% adjustable) - Free running (from battery): ± 0.05 Hz									
Frequency change rate	maximum 1 Hz/sec									
Efficiency (@ 100%load)	up to 93%				up to 94%					
Crest factor	3:1									
Overload capacity	@ 100% - 125% load : 10 min. @ - %125 - %151 load :1 min. @ - > 151% load : by-pass									
Other protections	Intelligent short circuit protection, voltage tolerance protection, DC balance, regenerative load, current limiting protections, Voltage and frequency fixing feature against unbalanced load									
<b>BATTERIES</b>										
Type	Different types of dry and wet batteries can be used depending on the application									
Battery number	2x9 to 2x25 12V batteries or equivalent									
Charging voltage	± 122 VDC / ± 337VDC									
Battery cabinet	External									
Battery operation temp.	20°-25°C (Battery Charging with Temperature Compensation)									
Restart	When the mains voltage returns, it monitors the mains and automatically activates with a certain delay, has a "soft start" feature when commissioning (It can also operate at full load without battery, as long as there is mains voltage)									
Protection	3 level alarms, Battery end of discharge protection, Battery fuses, Charging current limit, Temperature compensation, Boost charge									
Battery test	Standard every 72 hours (adjustable)									
<b>GENERAL</b>										
Standards	EN62040-1, EN62040-2, EN62040-3, EN IEC 60068-3-3, EN61000-4-(2,3,4,5,6,8)									
User interface	4 lines LCD panel, Mimic leds, 5 vector buttons, Buzzer, Optional TFT panel									
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time									
Advanced	Auto diagnostics, 3 maintenance time indicators, Calibration over RS232, operating hour meter									
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays (Optional: dry contacts can be increased as required)									
Inputs	EPO input, Interactive battery panel input, Genset input									
Genset kit	Detection input standard									
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)									
Alarm logging	Standard:with time & date 512 events									
Eco mode	Available (Requires additional hardware)									
Protection	Power module over-temperature, Overcurrent, Temperature high alarm									
Operating temp. range	0°C - 40°C (storage -25°C - +55°C)									
Protection class	IP20									
Humidity	90% max. non-condensing (storage 20% - 95)									
Altitude	< 1000m above sea level (0.9% power reduction for every 100 m above 1000 m - according to EN 62040-3)									
Acoustic noise	< 57dBA			< 62 dBA			< 64 dBA		< 68 dBA	
Net weight (kg)	187	244	320	335	390	457	540	560	598	
Dimension (mm) HxWxD	1040x400x815			1440x515x855			1770x825x855			
<b>OPTIONS</b>										
High charging current capacities	Powered rectifier for fast charging of long-term batteries									
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), USB Alarm Logger, TCP/IP, GSM/GPRS Modem, Comport multiplexer									
Parallel operation	up to 8									