DHF RT SERIES UPS

RANGE : 1 KVA - 20 KVA 1:1/3:1

Rack Mountable UPS

LI READY

SOHO
EDUCATION
TRANSPORT
BPO
FINANCE
ANALYTICAL EQUIPMENTS
DATA CENTER



FEATURES

- Advanced DSP And 3-Level Technology
- Output Power Factor 1.0
- Active Power Factor Correction (APFC), Input Power Factor Up To 0.99
- High Efficiency 95% (Up To 98% In ECO Mode)
- Flexible Battery Configuration
- Digitally Controlled Charger

The DHF RT Series rack-mounted UPS offers dependable backup power for essential equipment in space-constrained settings. Available in single-phase options (1-10 kVA) and three-phase options (10-20 kVA), the RT Series guarantees continuous operation of servers, networking gear, and data storage during power outages. Its compact design fits standard 19-inch racks, making it suitable for network closets, distribution frames, and small offices. DHF RT series provides effective surge protection, prolongs hardware lifespan, and supports remote management. Additionally, DHF RT Series reduces reactive power, improves energy efficiency, and ensures business continuity. Its flexible battery configurations support 16 to 20 batteries with digitally controlled charging to maintain optimal battery health.

TECHNICAL SPECIFICATIONS

Single Phase Input - Single Phase Output

MODEL	DHF RT 101	DHF RT 102	DHF RT 103	DHF RT 106	DHF RT 110
CAPACITY	**1 kVA / 1 kW**	**2 kVA / 2 kW**	**3 kVA / 3 kW**	**6kVA/6KW**	**10kVA/10KW**
INPUT					
Rated voltage	208 / 220 / 230 / 240 Vac				
Voltage range	180–280 Vac (no derating)		110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 288 Vac (no derating)		
Frequency	50/60 Hz ± 5 Hz (auto-sensing)				
Power factor	≥ 0.99				
Bypass voltage range	0.4–1.0 (settable)				
Total harmonic distortion (THDi)	≤ 5%				
OUTPUT					
Rated Voltage	208 / 220 / 230 / 240 Vac (settable via LCD)				
Voltage regulation	±1%				
Frequency	45–55 Hz or 55–65 Hz (synchronized range); 50 / 60 Hz ± 0.1 Hz (battery mode)				
Waveform	Sinusoidal				
Power factor	1.0				
Total harmonic distortion (THDv)	≤ 2% (linear load), ≤ 4% (non-linear load), ≤ 5% (non-linear load)				
Crest factor	3:1				
Overload	105% ~ 110% for 30 min, 110% ~ 130% for 10 min, 130% ~ 150% for 30 s, >150% for 500 ms				
BATTERIES					
DC voltage	24V / 36V	48V / 72V	72V / 96V	192 Vdc (192–240 Vdc settable)	
Charging current	1–12A settable			Standard model: 1 A, Long time model: 5 A (default), 1–5 A settable, 12 A (optional)	
Recharge time	Standard model: 90% capacity restored in 8 hours Long time model: depends on capacity of battery				
SYSTEM					
Efficiency on Eco Mode	≥97.5%	≥98.5%	≥98.3%	≥98.5%	
Transfer time	0 ms				
Protections	Short-Circuit, Overload, Overtemperature, Battery Low Voltage, Over & Under Voltage and Fan Failure				
Max. Number of Parallel Connections	4				
Communications	RS232 (standard), USB / RS485 /Dry Contacts / SNMP /Battery Temperature Compensation (optional)				
Display	LCD +LED				
ENVIRONMENT					
Operating temperature	0–50°C				
Storage temperature	–25°C – +70°C (excluding batteries)				
Relative humidity	0 ~ 95% (non-condensing)				
Operation Altitude	≥1000 m; derating 1% for each additional 100 m				
IP rating	IP 20/21				
Noise level at 1m	≤50 dB		≤55 dB	≤ 58 dB	
OTHERS					
DIMENSIONS (W×D×H) mm	440×338×88			514 × 968 × 188	
Net weight (kg)	5.2	7.28	7.52	12	14
Gross weight (kg)	7.32	10	10.26	14	16

TECHNICAL SPECIFICATIONS

Three Phase Input - Single Phase Output

MODEL	DHF RT 3110	DHF RT 3115	DHF RT 3120
Capacity	10 kVA / 10 kW	15 kVA / 15 kW	20 kVA / 20 kW
INPUT			
Rated voltage	380 / 400 / 415 Vac		
Voltage range	190 ~ 304 Vac (linear derating between 50% and 100% load); 304 ~ 478 Vac (no derating)		
Rated Frequency	50 / 60 Hz (auto-sensing)		
Power factor	≥ 0.99		
Bypass voltage range	-40% ~ +15% (settable)		
Total harmonic distortion (THDi)	≤ 5%		
OUTPUT			
Rated Voltage	208 (PF=0.9) / 220 / 230 / 240 Vac		
Voltage regulation	± 1%		
Frequency	Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1 Hz in battery mode		
Waveform	Sinusoidal		
Power factor	1.0		
Total harmonic distortion (THDv)	≤ 1% (linear load); ≤ 3% (non-linear load)		
Crest factor	3:1		
Overload	105% ~ 110% for 10 min, 110% ~ 125% for 1 min, 126% ~ 150% for 30 s		
BATTERIES			
DC voltage	192 Vdc (192 ~ 240 Vdc settable)		
No. of Battery	16 pcs (16 ~ 20 settable)		
Charging current	10 A		
SYSTEM			
Efficiency	≥ 95% at Mains, ≥ 98% in ECO mode		
Transfer time	0 ms		
Protections	Short-Circuit, Overload, Overtemperature, Battery Low Voltage, Overvoltage, Undervoltage and Fan Failure		
Max. Number of Parallel Connections	4		
Communications	RS232 (Standard), USB / RS485 / Dry Contacts / SNMP / Battery Temperature Compensation (Optional)		
Display	LCD + LED		
OTHERS			
Operating temperature	0°C ~ 50°C		
Storage temperature	-25°C ~ 70°C (without battery)		
Relative humidity	0 ~ 95% (non-condensing)		
Altitude	≥ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 20/21		
Noise level at 1m	≤ 58 dB		
DIMENSIONS (W×D×H) mm	440 × 650× 88	440 × 780× 132	
Net weight (kg)	17	25.5	
Gross weight (kg)	19	28	

DHF SS SERIES UPS

RANGE:1 KVA- 20 KVA 1:1/3:1

SINGLE-PHASE OUTPUT

Li READY

- SOHO
- EDUCATION
- TRANSPORT
- BPO
- FINANCE
- ANALYTICAL EQUIPMENTS
- DATA CENTER



FEATURES

- Advanced DSP And 3-Level Technology
- Output Power Factor 1.0
- Active Power Factor Correction (APFC), Input Power Factor Up To 0.99
- High Efficiency 95% (Up To 98% In ECO Mode)
- Advanced Digital Parallel Technology
- Flexible Battery Configuration (Settable 16 - 20 PCS Batteries)
- Digitally Controlled Charger

The DHF Series 1 kVA to 20 kVA UPS system is a single-phase UPS that uses advanced technology for a dependable power supply. The DHF Series utilises high frequency online double conversion technology, providing stable output and protection against fluctuations. Controlled by Digital Signal Processing (DSP) for accuracy and efficiency, it includes active power factor correction (APFC), achieving an input power factor of up to 0.99. This reduces reactive power and enhances energy efficiency. The system offers output power factor options of 0.9 or 1.0 to meet different load needs. With a broad input voltage range and a frequency range of 40 to 70 Hz, along with auto-sensing and 50/60 Hz conversion, it adapts to various power environments. The "cold start" function allows activation without external power, which is essential in emergencies. Battery configurations are flexible, supporting 16 to 20 batteries with digitally controlled charging for optimal health.

TECHNICAL SPECIFICATIONS

Single Phase Input - Single Phase Output

MODEL	DHF 101	DHF 102	DHF 103	DHF 106	DHF 110
CAPACITY	1kVA / 1kW	2kVA / 2kW	3kVA / 3kW	6kVA / 6kW	10kVA / 10kW
INPUT					
Rated voltage	208 / 220 / 230 / 240 Vac				
Voltage range	110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 280 Vac (no derating); 280 ~ 300 Vac (derating 50%)				
Frequency	40 ~ 70 Hz (auto-sensing)				
Power factor	≥ 0.99				
Bypass voltage range	-25% ~ +15% (settable)				
Total harmonic distortion (THDi)	≤ 6%				
OUTPUT					
Voltage	208 / 220 / 230 / 240 Vac (settable via LCD)				
Voltage regulation	±1%				
Frequency	45 – 65 Hz (Synchronized Range); 50 / 60 Hz ± 0.1 Hz (Battery Mode)				
Waveform	Sinusoidal				
Power factor	0.8/ 0.9 / 1.0 (Factory Settable)				
Total harmonic distortion (THDv)	≤ 2% (linear load); ≤ 5% (non-linear load)				
Crest factor	3:1				
Overload	105% ~ 125% for 1 min, 125% ~ 150% for 30 s, >150% for 300 ms				
BATTERIES					
DC voltage	24V / 36V	48V / 72V	72V/96V	192VDC (192–240 VDC settable)	
Charging current (max)	6A		12A		
Recharge time	6–8 hrs (depends on battery capacity)				
SYSTEM					
Efficiency	≥ 90% (Normal), up to 99% (ECO Mode)				
Transfer time	Mains Mode To Battery Mode : 0 ms; Inverter Mode To Bypass Mode : 4 ms (Typical)				
Protections	Short-Circuit, Overload, Over Temperature, Battery Discharge, Fan Failure				
Communications	RS232 (Standard), USB / RS485 / Dry Contacts / SNMP (Optional)				
Display	LCD + LED				
Standards	IEC 61000-2-2, IEC 62040-2, IEC 62040-1, IEC 62040-3				
OTHERS					
Operating temperature	0°C ~ 50°C				
Storage temperature	-25°C ~ 70°C (without batteries)				
Relative humidity	0 ~ 95% (non-condensing)				
Altitude	≥1000 m, derating 1% for each additional 100 m				
IP rating	IP 20/21				
Noise level @1m	≤ 50 dB	≤ 55 dB		≤ 58 dB (10kVA)	
Dimensions (W×D×H) mm	144×417×216 / 191×495×350				
Net weight (kg)	4	6	8	14.5	16.5
Gross weight (kg)	5.5	7.5	9.5	16	18

TECHNICAL SPECIFICATIONS

Three Phase Input - Single Phase Output

MODEL	DHF310	DHF315	DHF320
CAPACITY	**10kVA /10KW**	**15kVA /15KW**	**20kVA /20KW**
INPUT			
Rated voltage	380 / 400 / 415 Vac		
Voltage range	190 – 305 Vac (linear derating between 50% and 100% load); 305 – 499 Vac (no derating)		
Rated Frequency	50 / 60 Hz (auto-sensing)		
Power factor	≥ 0.99		
Bypass voltage range	-40% ~ +15% (settable)		
Total harmonic distortion (THDi)	≤ 5%		
OUTPUT			
Rated Voltage	208 (P.F.=0.9) / 220 / 230 / 240 Vac		
Voltage regulation	± 1%		
Frequency	Synchronized to Bypass In Mains Mode; 50 / 60 Hz ± 0.1 Hz In Battery Mode		
Waveform	Sinusoidal		
Power factor	0.8/ 0.9 / 1.0 (Factory Settable)		
Total harmonic distortion (THDv)	≤ 1% (linear load); ≤ 3% (non-linear load)		
Crest factor	3:1		
Overload	105% ~ 110% for 10 min, 110% ~ 125% for 1 min, 126% ~ 150% for 30 s		
BATTERIES			
DC voltage	192 VDC (192 ~ 240 VDC settable)		
Charging current	1 – 5 A settable, 10 A (optional)		
Recharge time	8 - 10 Hours (Depends on Battery Capacity)		
SYSTEM			
Efficiency	≥ 94% at 100% load, Max. 95% at 60% load , ≥ 98% in ECO mode		
Transfer time	0 ms		
Protections	Short-Circuit, Overload, Over Temperature, Battery Low Voltage, Over Voltage, Undervoltage, Fan Failure		
Max. Number Of Parallel Connections	4		
Communications	RS232 (standard), USB / RS485 / Dry Contacts / SNMP / Battery Temperature Compensation (optional)		
Display	LCD + LED		
OTHERS			
Operating temperature	0°C ~ 50°C		
Storage temperature	-25°C ~ 70°C (without battery)		
Relative humidity	0 ~ 95% (non-condensing)		
Altitude	≥ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 20/21		
Noise level at 1m	≤ 58 dB		
Dimensions (W×D×H) mm	191 × 495 × 350	191 × 495 × 515	
Net weight (kg)	18.5	26.5	
Gross weight (kg)	20	28	

DHF TP SERIES

RANGE : 10 KVA - 200 KVA (1 : 1, 3 : 1, 3:3)

Unity Powerfactor
Transformerless Design

MEDICAL
INDUSTRY
TRANSPORT
EMERGENCY
FINANCE
DATA CENTER



READY

FEATURES

- Advanced Dual-Core DSP Control
- Digital Paralleling for Enhanced System Performance.
- High-Efficiency Power Management
- 0.99 Power Factor, 98.5% Eco Mode Efficiency.
- Flexible, User-Friendly Interface
- Powerful Software for Parameter Configuration
- Intelligent Protection Features for Batteries and Hardware

The DHF TP 3-phase UPS series, ranging from 10 to 200 kVA, revolutionises power backup solutions with its transformerless design tailored for efficiency, spac saving, and cost-effectiveness. DHF series incorporates advanced high frequency online double conversion technology, coupled with dual-core DSP control and 3 level technology. Active power factor correction (APFC) and overall efficiency of up to 97% ensure a significant stride in energy savings. Supporting 32 to 40 battery units with a digitally managed charger, the DHF UPS provide extended runtime and reliable start up even during power outages with cold start capability. The system's output power factor of 1.0 and dual-input design with independent bypass functions further enhance flexibility and redundancy, making it suitable for critical Applications.

TECHNICAL SPECIFICATIONS

Single Phase Input - Single Phase Output
Three Phase Input - Single Phase Output
Three Phase Input - Three Phase Output

MODEL	DHF 3310	DHF 3315	DHF 3320	DHF 3330	DHF 3340	DHF 3360
POWER RATING	**10kVA/10kW**	**15kVA/15kW**	**20kVA/20kW**	**30kVA/30kW**	**40kVA/40kW**	**60kVA/60kW**
INPUT						
Rated Voltage	220/230/240V (L+N+PE), 380/400/415V (3Φ+ N + PE)					
Voltage Range	132 VAC 275 VAC (L-N) 230 V AC 480 VAC					
Rated Frequency	50/60Hz					
Power Factor	> 0.99					
Bypass Voltage Range	-40% -+25% (Selectable)					
Input Current THDi	< 3% (linear load)					
OUTPUT						
Rated Voltage	220/230/240V (L+N), 380/400/415V (3Ø + N + PE)					
Voltage Precision	±1% (linear load)					
Frequency	Synchronized with utility in mains mode, 50/60 Hz ± 0.1 Hz in battery mode					
Waveform	Sinusoidal					
Power Factor	1.0					
Total Harmonic Distortion (THDv)	<1% (full linear load), <3% (full non-linear load per IEC/EN62040-3)					
Crest Factor	3:1					
Overload	<110%, 60min; <125%, 10min; <150%, 1min; >150%, 200ms					
BATTERIES						
DC Voltage	382 VDC to 480 VDC (selectable, 32~40 pcs)					
Charging Current	10A Max.		15A Max		20A Max.	
SYSTEM						
Display	5 inches touch screen					
Efficiency	Up to 96%					
Protections	Short-Circuit, Overload, Overtemperature, Battery Low Voltage, Overvoltage, Undervoltage And Fan Failure					
Transfer Time	0 ms					
Max. Parallel Connections	6					
Interface	Standard RS232, RS485, USB, Battery Cold Start Optional: Programmable Dry Contact, SNMP, Parallel Kit					
ENVIRONMENT						
Operating Temperature	0°C to 50°C					
Storage Temperature	-40°C to 70°C					
Relative Humidity	0 – 95% (non-condensing)					
Altitude	≥1000m, derated 1% per 100m if >1000m					
Noise Level	58dB Max.				62dB Max.	
OTHERS						
Dimensions (W x D x H) mm	250 × 720 × 560	250x800x700		250x840x930	250x720x560	250x790x560
Net Weight (kg)	31	33	33	42	42	48
Gross Weight (kg)	40	42	42	52	52	58

TECHNICAL SPECIFICATIONS

Three Phase Input - Three Phase Output

MODEL	DHF 3380	DHF 33100	DHF 33120	DHF 33160	DHF 33200
POWER RATING	**80kVA/80kW**	**100kVA/100kW**	**120kVA/120kW**	**160kVA/160kW**	**200kVA/200kW**
INPUT					
Rated Voltage	380/400/415 Vac (3 Ø +N +PE)				
Voltage Range	300 VAC to 480 VAC full load, 230VAC to 300 VAC, load decrease linearly according to the min phase voltage				
Rated Frequency	50/60Hz				
Power Factor	> 0.99				
Bypass Voltage Range	Selectable, default: -20% ~ +15% Upper limit: +10%, +15%, +25%; Lower Limit: -10%, -15%, -20%, -30%, -40%				
Input Current THDi	< 3% (linear load)				
OUTPUT					
Rated Voltage	380/400/415Vac (3 Ø + N + PE)				
Voltage Precision	±1% (linear load)				
Frequency	Synchronized with utility in mains mode, 50/60 Hz ± 0.1 Hz in battery mode				
Waveform	Sinusoidal				
Power Factor	1.0				
Total Harmonic Distortion	<1% (full linear load), <3% (full non-linear load per IEC/EN62040-3)				
Crest Factor	3:1				
Overload	<110%, 60min; <125%, 10min; <150%, 1min; >150%, 200ms				
BATTERIES					
DC Voltage	384 VDC to 480 VDC (selectable, 32 to 40 pcs)				
Charging Current	30A	40A		60A	
Charging Voltage Precision	<1%				
SYSTEM					
Display	5-inch touch screen			7-inch touch screen	
Efficiency	96%				
Protections	Short-Circuit, Overload, Overtemperature, Battery Low Voltage, Overvoltage, Undervoltage And Fan Failure				
Transfer Time	0 ms				
Interface	Standard: RS232, RS485, USB, Battery Cold Start Optional: SNMP, Programmable Dry Contact, Parallel Kit				
ENVIRONMENT					
Operating Temperature	0°C to 50°C				
Storage Temperature	-40°C to 70°C				
Relative Humidity	0 – 95% (non-condensing)				
Altitude	≥1000m, derated 1% per 100m if >1000m				
Noise Level	< 70dB				
OTHERS					
Dimensions (W x D x H) mm	360 x 800 x 1200	360 x 850 x 1200		410 x 850 x 1250	
Net Weight (kg)	152	156	160	194	200
Gross Weight (kg)	172	180	180	214	220