

## STARK Series

On-Line "Double Conversion" Technology,  
DSP Controlled IGBT Rectifier UPS  
3 phase in / 3phase out 10 to 40kVA

- ▶ IGBT Rectifier
- ▶ Real Digital Signal Processor (DSP) controlled transformerless design
- ▶ High Output Power Factor ( p.f.: 0,9 )
- ▶ Input Power Factor Correction PFC( >0,99 )
- ▶ Low Input Total Harmonic Distortion Level ( THDi  $\leq$  3% )
- ▶ High Efficiency ( up to 93% )
- ▶ Wide Input Voltage Range
- ▶ Cold Start Availability
- ▶ Increased Efficiency with Eco Mode Operation
- ▶ Fan Speed Control depending on internal temperature and load %
- ▶ Parallel Redundant Operation up to 4 Units
- ▶ Common Battery Application availability at Parallel Systems
- ▶ Configurable Battery Qty  
16, 18 or 20pcs @ 10 to 30kVA / 32, 34, 36 or 40pcs @ 40kVA )
- ▶ 3 Step Intelligent battery charging system
- ▶ Static and Manual Bypass Built-in
- ▶ User Friendly LCD/LED Display Panel with functional keypads
- ▶ Remaining back up time indication on the LCD Display panel
- ▶ Power derating operation availability at high temperature and altitude
- ▶ EPO (Emergency Power Off) Function
- ▶ Short Circuit, Overload, Overtemperature, Deep Discharge protections
- ▶ USB, RS232, RS485 & Dry Contact Communication Ports
- ▶ Compact dimension with internal battery placement availability

### Accessories Options

- Additional Relay Card
- SNMP Card(Internal)
- Parallel Connection Cable

### Battery Cabinets

- UPS looking battery Cabinets (different battery configuration available)  
V14, V15, V24, V33, V34
- Eco Cabinets (different battery configurations available)  
BC00, BC10, BC20, BC30, BC40, BC50, BC60



# STARK Series Specifications

MODEL	ST3310		ST3315		ST3320		ST3330		ST3340		
Power (kVA)	10		15		20		30		40		
Power (kW)	9		13,5		18		27		36		
INPUT											
Phase Configuration	3Ph + N + PE										
Nominal Voltage	380 / 400 / 415 VAC										
Voltage Range (Full Load)	304-478								323-478		
Voltage Range (Half Load)	208-478										
Frequency	50/60 Hz ±10% (auto sensing)										
Power Factor	0,99										
Total Harmonic Distortion (THDi)	3%										
OUTPUT											
Power Factor	0,9										
Phase Configuration	3Ph + N + PE										
Nominal Voltage	380 / 400 / 415 VAC (adjustable)										
Wave Form	Pure Sine Wave										
Total Harmonic Distortion at 100% load	≤2% with linear load ≤5% with non linear load										
Frequency	50Hz or 60Hz (adjustable)										
Frequency Tolerance (free running)	(50/60±0.2%)Hz @ Battery Operation										
Static Voltage Regulation (0%-100% load)	<1%										
Crest Factor	3:1										
Transfer Time	0sec										
Overload	60 min @ (%100-%110)										
	10 min @ (%110-%125)										
	1 min @ (%125-%150)										
	Transfers to Bypass @ ≥150 (On-line Mode)										
Total Efficiency	Up to 93%										
BATTERY											
Type	Maintenance-free lead acid batteries										
Recharge Time (for Internal Battery)	4-6h up to 90%										
Quantity per String	16/18/20pcs								32/34/36/38/40pcs		
Internal Battery Type	7Ah, 9Ah								None		
Internal Battery Quantity	Up to 40pcs					Up to 60pcs			None		
Standard Charging Current	1,35A		2,7A				4A		10A		
Max Charging Current	10A										
Cold Start	Present										
DISPLAY											
Operation Modes	Normal Mode, Back up Mode, Eco Mode, Parallel Mode										
LCD display	Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load%, Battery Voltage, Battery Current, Autonomy Time, Temperature										
PROTECTION											
	Overload, Over Voltage, Overheat, Short Circuit, Low Battery										
COMMUNICATION											
Interface (Communication ports)	USB, RS485, 3pcs Dry Contact Signal										
Dry Contact ( standard )	UPS Battery Low, AC Power Failure, Shut down UPS										
ENVIRONMENT											
Storage Temperature	-25°C - +55°C (15 to 40°C recommended for longer battery life time)										
Operating Temperature	0°C - 40°C (20 to 25°C recommended for longer battery life time)										
Humidity	up to 95% ( non-condensing )										
Max. Altitude without derating	up to 1000 meters										
Audible Noise at 1 m	<55 dB								<58 dB		
Protection Class	IP20										
PHYSICAL SPECIFICATIONS											
Dimensions(mm) (WxDxH)	250x828x868										
Weight - without battery ( kg )	57		63		64		71		73		
STANDARDS											
Standards	EN62040-1-1 (Safety); EN62040-2 (EMC)										
ACCESORIES											
Optional	SNMP & Additional Relay Board										