

Features

- Meets the specifications and requirements of global offshore marine and oil & gas clients
- Output ratings available from 5kVA to 120kVA
- IGBT based rectifier providing high power factor low distortion sinusoidal input current
- Isolation transformer in the rectifier input
- Standard options for input and output voltage
- Battery capacity test by regenerative energy recovery to the mains supply
- Available in DC bus voltages of 220V or 372V nominal
- Designed for ease of maintenance with plug in control cards
- Colour TFT Touch screen display providing UPS alarm and control
- Compatible with lead acid or nickel cadmium batteries
- Capable of being configured for parallel operation up to 5 units
- Pre-engineered options to meet client specifications
- Excellent compatibility when operating with generator supplies
- Maintenance bypass facility in separate bypass enclosure



UPS Range

220V DC Bus Type	UPS Rating	UPS Enclosure		Bypass Enclosure	
		Size H x W x D	Weight	Size H x W x D	Weight
UP7021 / 220 / 5	5 kVA	2200 x 1000 x 800 mm	760 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 7.5	7.5 kVA	2200 x 1000 x 800 mm	760 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 10	10 kVA	2200 x 1000 x 800 mm	760 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 15	15 kVA	2200 x 1000 x 800 mm	830 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 20	20 kVA	2200 x 1200 x 800 mm	930 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 25	25 kVA	2200 x 1200 x 800 mm	1040 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 30	30 kVA	2200 x 1200 x 800 mm	1040 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 220 / 40	40 kVA	2200 x 1400 x 800 mm	1390 kg	2200 x 800 x 800 mm	210 kg
UP7021 / 220 / 50	50 kVA	2200 x 1900 x 800 mm	1490 kg	2200 x 800 x 800 mm	210 kg
UP7021 / 220 / 60	60 kVA	2200 x 2200 x 800 mm	1590 kg	2200 x 800 x 800 mm	210 kg

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Registration No 941798 England

372V DC Bus Type	UPS Rating	UPS Enclosure		Bypass Enclosure	
		Size H x W x D	Weight	Size H x W x D	Weight
UP7021 / 372 / 20	20 kVA	2200 x 1000 x 800 mm	880 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 372 / 25	25 kVA	2200 x 1000 x 800 mm	1010 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 372 / 30	30 kVA	2200 x 1200 x 800 mm	1150 kg	2200 x 600 x 800 mm	180 kg
UP7021 / 372 / 40	40 kVA	2200 x 1200 x 800 mm	1320 kg	2200 x 800 x 800 mm	210 kg
UP7021 / 372 / 50	50 kVA	2200 x 1400 x 800 mm	1420 kg	2200 x 800 x 800 mm	210 kg
UP7021 / 372 / 60	60 kVA	2200 x 1900 x 800 mm	1530 kg	2200 x 800 x 800 mm	210 kg
UP7021 / 372 / 80	80 kVA	2200 x 2200 x 800 mm	1850 kg	2200 x 1000 x 800 mm	280 kg
UP7021 / 372 / 100	100 kVA	2200 x 2400 x 800 mm	2110 kg	2200 x 1400 x 800 mm	350 kg
UP7021 / 372 / 120	120 kVA	2200 x 2400 x 800 mm	2460 kg	2200 x 1600 x 800 mm	420 kg

Standard Specifications

AC Input

Supply phase & voltage:	Three phase 380, 400, 415 or 400VAC
Supply configuration:	3 or 4 wire with protective earth
Supply voltage variation:	+/- 10%
Supply frequency:	50Hz or 60Hz nominal
Supply frequency variation:	+/- 5%
Supply power factor:	0.99 at full load, 0.95 at minimum load
Supply current distortion:	Less than 6% THD at full load

UPS Output

Output voltage:	220, 230, 240 or 254VAC single phase, 2wire
Static voltage regulation:	+/- 1% for 0—100% load variation
Dynamic voltage regulation:	+/- 4% for 100% load step, 4ms recovery to within static limits
Overload capability:	150% for 1 minute, 125% for 10 minutes, 110% for 20 minutes
Inverter short circuit capability:	200% for 5 seconds to EN 50091 pt 1
Bypass overload capability:	1000% for 10mS
Waveform:	Sinusoidal
Distortion:	< 3% with linear load
Crest factor (load current):	< 2.3 at 100% rated load
Frequency:	50Hz to 60Hz +/- 0.1% controlled or synchronised to the bypass supply
Load power factor range:	0 lag to 0 lead, output power de-rated if power factor deviates from 0.8 lag

Mechanical

Protection Rating:	IP31 according to EN 60529
Enclosure finish:	Pale grey RAL7035 textured
Cooling:	Natural or power module assisted cooling dependant on rating
Audible noise level:	50—70dBA dependent on rating and load
Eye bolts:	Fitted to all enclosures

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General

Operating temperature range:	-10 °C to +40 °C
Storage temperature range:	-20 °C to +70 °C
Operating altitude:	0 to 1000m
Operating humidity:	10% to 90% RH—non condensing
Safety:	BS EN 62040-1-2
EMC:	BS EN 62040-2

System Features

Rectifier type:	IGBT with regenerative capability
Rectifier input protection:	MCCB with thermal and magnetic protection pad-lockable in off and on position
Rectifier input transformer:	Galvanic isolation with taps to suit differing nominal input voltages
Rectifier soft start:	Controlled ramp up of rectifier input as switch on
Rectifier on/off control:	Manual control via TFT display
Rectifier boost charge:	Two rate charge enabled for vented batteries, disabled for VRLA
Battery protection:	MCCB with thermal and magnetic protection pad-lockable in off and on position
Battery test:	Selectable discharge test by regenerative facility or DC bus voltage depression
Black start facility	Manual control with TFT display
Inverter type:	IGBT pulse width modulated
Inverter output transformer:	Galvanic isolation with taps to suit differing output voltages
Inverter on/off control:	Manual control via TFT display
Bypass enclosure:	Separate enclosure to main UPS allowing for isolation and maintenance
Bypass input protection:	MCCB with thermal and magnetic protection pad-lockable in and of on position
Maintenance bypass switching:	MCCB type isolators and pad-lockable in all positions
Static Bypass protection:	Input to static bypass protected with fast acting fuse
Power module cooling:	Dual fans on modules with assisted cooling
Inter enclosure wiring:	Terminals fitted
Door locks:	Fitted on all enclosures with key operation
Gland plate:	Steel plate fitted in base of enclosures
Cable entry:	Top or bottom cable entry, top via bypass enclosure only
Wiring:	Identification ferules and crimped cable terminations
Earth connection bar:	Copper bar fitted in base of enclosures
Labels:	Engraved labels
Document wallet:	Fitted in the internal face of enclosure doors
Cable insulation:	Low smoke zero halogen type
Remote alarms:	8 isolated relay contacts providing: Load on inverter Load on bypass Battery discharging Battery low volts Bypass supply failure UPS common alarm

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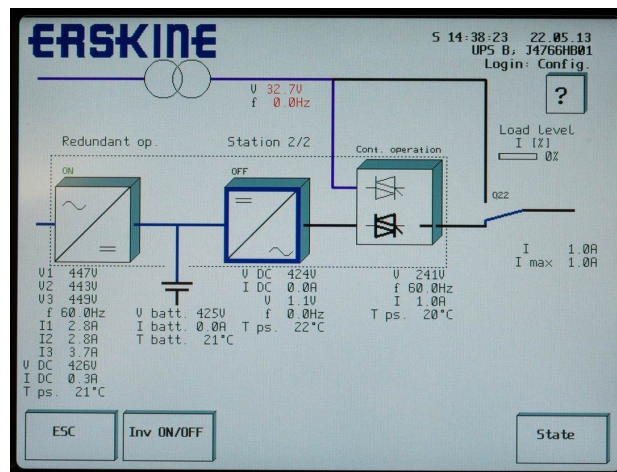
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TFT Instrumentation

TFT Touch screen colour display:	<p>The UPS user interface provides indication of measured UPS operating values. The settings can be changed and operating mode selected.</p> <p>The flow of power through the UPS is displayed on a multi-coloured mimic display with colour coded symbols. Measured values are displayed alongside the associated</p> <p>A three level password system protects the UPS configuration against unauthorised changes.</p>
Measurements:	<p>Rectifier input voltage, input frequency, output voltage & current.</p> <p>Battery terminal voltage, current & charge state.</p> <p>Inverter input voltage & current, output voltage & frequency, power section temperature.</p> <p>Bypass input voltage & frequency.</p> <p>UPS output voltage, current & frequency</p>
Alarms & status:	Comprehensive set of UPS, rectifier, inverter, bypass and battery alarms and status indications.
Event history:	The history log can hold up to 512 events



Options

Output overload performance:	Higher levels available for protective device clearance
Output crest factor:	Up to 3:1
Output voltage:	Special voltages available on request i.e. 110V AC
Rectifier output:	Increased rectifier ratings for higher levels of re-charge current
Boost charge inhibit:	External vent fan fail inhibit input
Tropicalisation:	Conformal coated PCB assemblies
Enclosure protection rating:	IP41 or IP42
Fan supervision:	Fan failure alarm
Enclosure door stay:	On all enclosure doors
Anti-condensation heaters:	Controlled by thermostat or hygostat
Enclosure illumination:	Lamp fitted to each enclosure
Rear enclosure access:	Removable rear panels
Enclosure finish:	Finishes available on request

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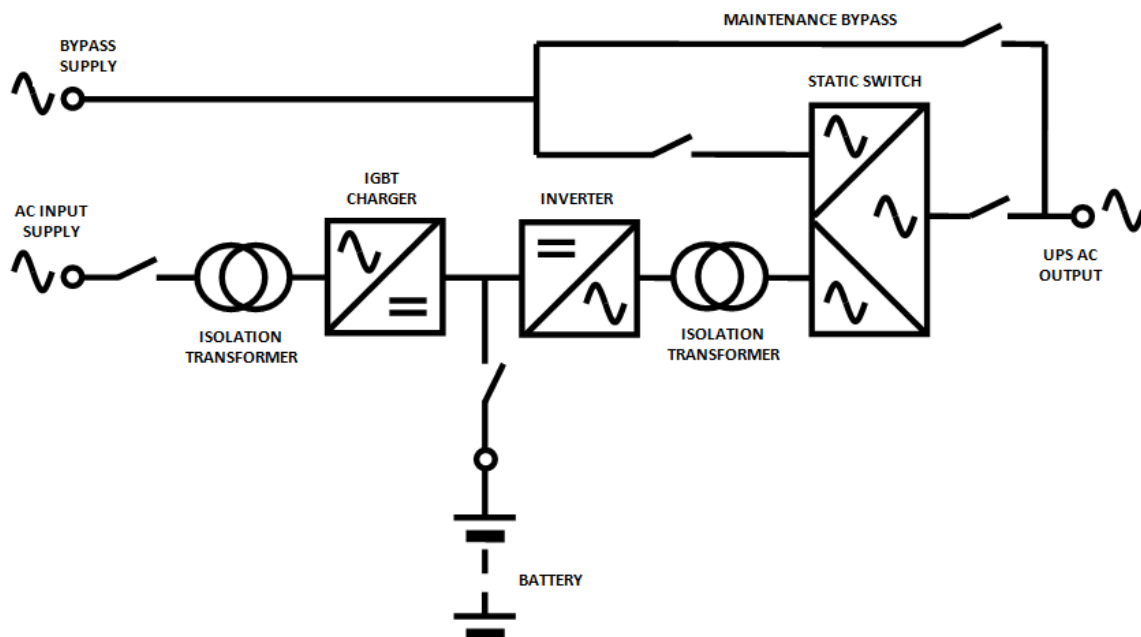
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Options (Continued)

DC earth fault alarm:	On rectifier output DC bus
Diesel generator contact:	Inhibits synchronisation with the bypass when running on a generator supply
Bypass transformer:	Arrangement of phases and taps to suit application input and output voltage ratings
Bypass voltage stabiliser:	Various option on request
Maintenance bypass switch:	3 Way rotary
Charge compensation:	Battery charge temperature compensation
Reverse polarity protection:	Battery reverse connection protection
Battery load test terminals:	Provision for connection of battery discharge test load
Battery bus tie:	Provides bus tie capability for the DC bus on parallel units
Black start facility:	Automatic in addition to manual
Blocking diode:	Rectifier output
AC earth fault alarm:	On UPS AC output
Output load switch:	Fitted in UPS AC output
Remote alarms:	Additional 8 isolated relay contacts with configurable contact assignment
Remote communications:	SNMP, Modbus or Profibus on RS485, Ethernet or Fibre
AC Distribution:	Specific requirements to be defined at project level
Parallel capability:	Capability to parallel up to five UPS units for redundancy of power expansion



Dale Power Solutions Ltd reserves the right to make changes in specification without notice or liability. All information is subject to Dale Power Solutions own data & is considered accurate at time of publishing.

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