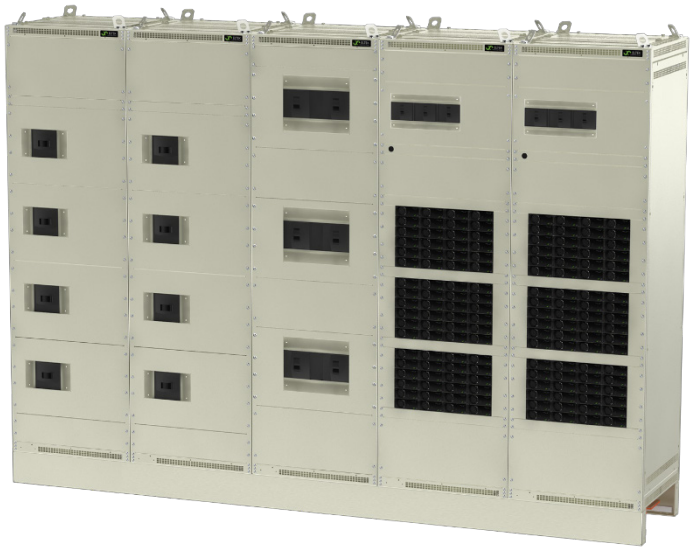
Enabling optimization of Telecom sites

Eltek's 380 V_{DC} systems provide operators with the ability to solve the combined challenges of ever greater power density, varying load types, and increased site flexibility without compromising on performance, cost, or serviceability.

Utilizing high efficiency power conversion modules, innovative design, and comprehensive monitoring and control features to fully optimize the potential of the power infrastructure.



380 V_{DC} Power Solutions

FLEXIBLE POWER SYSTEMS UP TO 864 kW

Doc: 2314751 Rev2

PRODUCT DESCRIPTION

Construct the ideal power system to suit the site needs perfectly, using building blocks based on the Flatpack2 High Efficiency (HE) power converter module, and Smartpack2 control and monitoring system.

Using 380 V_{DC} reduces the normal operating current by a factor of 7 compared to 48 V_{DC} – so reducing copper use per kW of load – and greatly increases the flexibility of site designs, with batteries no longer required to be close to the power converters, and the load able to be located 100s of meters away from the power system.

The power platform also includes the ability to simply integrate a variety of renewable energy sources to complement traditional utility supplies.

Smartpack2 system controller

Flatpack2 HE converter

KEY FEATURES

- REDUCE CABLING TO THE LOAD
- INCREASED FLEXIBILITY OF SITE DESIGN
- MODULAR HOT-SWAPPABLE POWER CONVERTERS
- REDUCED INSTALLATION COSTS
- MINIMIZED MTTR
- SCALABILITY WITH 'BUILD AS YOU GROW'
- SIMPLIFIED POWER DISTRIBUTION
- POWER 48 V_{DC} OR AC LOADS AS AND WHERE NEEDED
- SUPPORT HIGHER LOADS WITH SAME CABLE INFRASTRUCTURE
- UPGRADE EXISTING SITES WITH NO DOWNTIME
- SIMPLIFY INTEGRATION OF RENEWABLE SOURCES
- HIGH EFFICIENCY

380 V_{DC} Power Solutions

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POWER CONVERSION CABINETS

DISTRIBUTION CABINETS

DC OUTPUT POWER CONVERSION

Output	380 V_{DC}
Single cabinet capacity	216 kW
Expandability	Up to 864 kW
Modules	Flatpack2 380V 3000W HE
Monitoring	Full system parameter monitoring & control with Smartpack2
Cabinet dimensions [WxDxH]	600 x 600 x 2000 mm

Specifications are subject to change without notice

DISTRIBUTION CABINETS

Output	Up to 24x 125 A 4p MCBs; Up to 6x 630 A 4p MCCBs; Up to 2x 2500 A 4p MCCBs
Expandability	Up to 6x distribution cabinets total
Monitoring	Breaker trip; Load monitoring per output (option)
Cabinet dimensions [WxDxH]	600 x 600 x 2000 mm

Specifications are subject to change without notice

380 V_{DC} Power Solutions

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BATTERY CABINETS

REMOTE POWER CONVERSION

BATTERY CABINETS

Protection per string	630 A Isolator and LVBD
Expandability	As required for load and backup time
Monitoring	Voltage Current Temperature Symmetry monitoring
Ideal operating temperature	25 °C
Dimensions [WxDxH]	1200 x 600 x 2000 mm (per cabinetized string)
Optional paralleling battery cabinets on left & right side	

Specifications are subject to change without notice

REMOTE POWER CONVERSION

Output	54.5 V_{DC}, or 208/380/400/415/480 V_{AC} 3-phase Y (wye) + Neutral
Capacity	Up to 108 kW (DC) Up to 120 kW (AC)
Modules	Flatpack2 DCDC 380V 48V 3000W SHE (DC), or BRAVO ECI 3kVA 380V 230V (AC)
Monitoring	Smartpack2 (DC) T2S ETH (AC)
Cabinet dimensions [WxDxH]	600 x 600 x 2000 mm (DC) 600 x 600 x 2200 mm (AC)

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380 V_{DC} Power Solutions

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AC INPUT	
Voltage	380 / 400 / 415 / 480 V_{AC}, 3-phase Y (wye) + Neutral (TN network) 200 / 208 / 230 V_{AC} 3-phase D (delta) (IT network)
Frequency	45 – 66 Hz
OUTPUT	
Voltage (nominal)	380 V_{DC}
Voltage (range)	300-400 V_{DC}
Additional info	See Flatpack2 380V HE datasheet
CONTROL AND MONITORING	
Monitoring Unit	Smartpack2
Local Operation	Display and keys, WEB interface via standard browser
Remote Operation	WEB Interface, MODBUS, SNMP protocol and email
Alarm Relays (Connection: clamp ≤ 1.5 mm^2)	6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts
Inputs	6 x Configurable (digital, analog max 75 V) Optional expansion up to 224 inputs
Alarms	Low & high output voltage alarms (Minor and major levels), Earth fault alarm, Temperature alarm, Mains outage alarm, Battery remaining capacity/low quality alarms, Battery/load breaker tripped alarm and much more. See datasheet for Smartpack2 for further information
REMOTE CONVERSION	
Input Voltage	260-400 V_{DC}
DC Output Voltage	54.5 V_{DC} default 50-55 V_{DC} adjustable range
DC Additional info	See Flatpack2 DCDC 380V 48V 3000W SHE module datasheet See Flatpack2 DCDC 380V 54V Converter System datasheet
AC Output Voltage (selectable)	120 / 220 / 230 / 240 / 277 V (Line to neutral); 208 / 380 / 400 / 415 / 480 V (Line to Line) 3ph Y (wye) + Neutral
AC Additional info	See BRAVO ECI 3kVA 380V 230V module datasheet See BRAVO ECI 380V 144kVA 400V DC-AC Inverter System datasheet
OTHER SPECIFICATIONS	
Isolation	3.0 KV_{AC} – input to output 1.5 KV_{AC} – input to earth 1.5 KV_{DC} – output to earth
Operating temperature	-20 to +45 °C (-4 to +113 °F) possible power derating above 40 °C (104 °F)
Storage temperature	-40 to +85 °C (-40 to +185 °F)
Humidity	5 to 95 % relative humidity, non-condensing
APPLICABLE STANDARDS [1)]	
Electrical safety	IEC/EN 60950-1:2013
EMC	IEC/EN 61000-6-2:2005 (immunity), IEC/EN 62040-2:2006
Environment	Tested in accordance with: ETSI EN 300 019-2-1 v2.2.1:2014 (Class 1.2); ETSI EN 300 019-2-2 v2.3.1:2013 (Class 2.3); ETSI EN 300 132-3-1 v2.1.1; 2011/65/EU (RoHS) & 2008/98/EC (WEEE) Normal operating conditions as per IEC/EN 62040-5-3:2016 clause 4.2, other operating conditions as per clause 4.3 must be advised..

1) All pictures shown with doors removed

2) Not all combinations and configurations are available, please contact your Eltek representative

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