

# Meeting all Data Centre Power Needs

The Eltek Converged Power System (DCPS) is the ultimate combination of flexibility, availability, and sustainability, providing a unique modular architecture that will solve any present and future power need.

Whatever the load requirements, or voltage levels, AC and DC, all can be provided by the same infrastructure.

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



# **CONVERGED POWER SOLUTIONS**

FLEXIBLE POWER SYSTEMS UP TO 432KW

Doc 2205699 - rev1

#### **PRODUCT DESCRIPTION**

The Eltek Converged Power System is built around the Flatpack2 High Efficiency (HE) power converter modules which are used in a wide variety of power critical applications, including; Telecoms; Power Generation; Rail; Marine & Offshore; Oil & Gas; and other demanding industries requiring long term, reliable performance.

Using novel designs to reduce the overall power infrastructure costs, while securing availability through innovative modular based power solutions, the converged power platform provides maximum flexibility and scalability to enable a 'build as you grow' philosophy.

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**

- WORLD'S HIGHEST AVAILABILITY
- FUTURE PROOF COMPACT DESIGN
- MODULAR 'HOT PLUG-IN' DESIGN FOR ULTRA LOW MTTR (<5 MINS) & CONFIGURABLE REDUNDANCY
- OPTIONAL DUAL AC SOURCE SYSTEM
- FLEXIBLE POWER MANAGEMENT TO PRECISELY TRACK IT CLOUD LOADS FOR OPTIMAL ENERGY USAGE
- REDUNDANT CONTROLLERS FOR INCREASED RELIABILITY
- EXTENSIVE ALARM & CONTROL FACILITIES INCLUDING REMOTE CONTROL CAPABILITIES
- FLEXIBILITY FOR MULTI DC OUTPUT VOLTAGES AND AC OUTPUT VOLTAGES
- INDUSTRY LEADING EFFICIENCY: LOWER POWER CONSUMPTION & HEAT DISSIPATION

# CONVERGED POWER SOLUTIONS



## FLEXIBLE POWER SYSTEMS UP TO 432KW

#### **DC OUTPUT POWER CONVERSION**

Output: 48V; 220V; 380V Basic system capacity: 36kW

Monitoring: Full system parameter monitoring & control

Expandability: up to 432kW

Cabinet dimensions: W600xD600xH2000mm (multiples of)
Optional paralleling distribution cabinets on left and right side

Operating temperature: 40°C

Specifications are subject to change without notice



# AC OUTPUT POWER CONVERSION



#### **AC OUTPUT POWER CONVERSION**

Output: 230/400Vac; 50Hz or 60Hz

Basic system capacity: 20kW

Monitoring: Full system parameter monitoring & control

Expandability: 400kW

Cabinet dimensions: W600xD600xH2000mm (multiples of)
Optional paralleling distribution cabinets on left and right side

Operating temperature: 40°C

Specifications are subject to change without notice

# CONVERGED POWER SOLUTIONS



## FLEXIBLE POWER SYSTEMS UP TO 432KW

#### **DISTRIBUTION CABINETS**

VDC 1200A: up to 48x 2-pole positions up to 8x 250A bulk MCCBs

VAC 500A: up to 72x 1-phase MCBs (up to 24x 3-phase)

up to 4x 250A 3-phase bulk MCCBs

Monitoring: Load monitoring per output

Breaker trip

Expandability: As required for load outputs

Cabinet dimensions: W600xD600xH2000mm (multiples of)

Optional paralleling distribution cabinets on left and right side

Operating temperature: 40°C

Specifications are subject to change without notice



#### **BATTERY CABINETS**



#### **BATTERY CABINETS**

Single bank capacity: Up to 178kW for 5 mins

Protection: 600A Isolator and LVBD

Monitoring: Current

Temperature

Symmetry monitoring

Expandability: As required for load and backup time

Cabinet dimensions: W600xD600xH2000mm (multiples of)
Optional paralleling battery cabinets on left and right side

Operating temperature: 30°C

Specifications are subject to change without notice





## FLEXIBLE POWER SYSTEMS UP TO 432KW

Voltage   230 V.c., 3-phase IT network   230 V.d., 3-phase IT network   230 V.d. 3-phase IT network   245 - 66 Hz	AC INPUT	
OUTPUT         Voltage       48Vdc 220Vdc 380Vdc 230/400 VAC, 3-phase TN network         Additional info       See Flatpack2 - 2kW 48Vc datasheet See Flatpack2 - 3kW 48Vc datasheet See Flatpack2 - 3kW 48Vc datasheet         CONTROL AND MONITORING         Monitoring Unit       Smartpack2         Local Operation       Display and keys, WEB interface via standard browser using WebPower Remote Operation         Alarm Relays (Connection: clamp ≤ 1.5 mm²)       6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts         Inputs       6 x Configurable (digital, analog max 75V) Optional expansion up to 272 inputs         Alarms       Low & high output voltage alarms (winor 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         OTHER SPECIFICATIONS         Isolation         3.0 KVAC - input and output         1.5 KVAC - input earth       0.5 KVDC - output earth         Storage temp.       -40 to +85°C (-40 to +185°F)         Weight /per cabinet       Appr. 180kg (396,8 lbs) excl. modules         APPLICABLE STANDARDS         Electrical safety       EC 60950, UL 60950, IEC 62040         EMC       ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-2 (immuni	Voltage	230 V <sub>AC</sub> , 3-phase IT network
Voltage  48Vdc 220Vdc 380Vdc 230V400 VAC, 3-phase TN network  Additional info  See Flatpack2 – 2kW 48Voc datasheet See Flatpack2 – 3kW 48Voc datasheet See Flatpack2 – 3kW 48Voc datasheet See Powerpack 48Voc datasheet  CONTROL AND MONITORING  Monitoring Unit  Smartpack2  Local Operation  Display and keys, WEB interface via standard browser using WebPower Remote Operation  Alarm Relays (Connection: clamp ≤ 1.5 mm²)  6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts  Inputs  6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts  Inputs  6 x Potential free change over contacts as standard. Optional expansion up to 170 changeover contacts  Inputs  1 configurable (digital, analog max 75V) Optional expansion up to 272 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  OTHER SPECIFICATIONS  Isolation  3.0 KVAC - input and output 1.5 KVAC - input earth 0.5 KVDC - output earth 0.6 KVDC - output earth 0.7 KVDC - output earth 0.8 KVDC - input and output 0.8 KVDC - output earth 0.9 KVDC - o	Frequency	45 – 66 Hz
220Vdc 380Vdc 230/400 VAC, 3-phase TN network  Additional info See Flatpack2 – 2kW 48V <sub>0c</sub> datasheet See Flatpack2 – 3kW 48V <sub>0c</sub> datasheet See Powerpack 48V <sub>0c</sub> datasheet See Powerpack 48V <sub>0c</sub> datasheet  CONTROL AND MONITORING  **CONTROL AND MONITORING**  Monitoring Unit Smartpack2 Local Operation Display and keys, WEB interface via standard browser using WebPower Remote Operation WebPower (WEB Interface, SNMP protocol and email) Alarm Relays (Connection: clamp ≤ 1.5 mm²) 6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts  Inputs 6 x Configurable (digital, analog max 75V) Optional expansion up to 1272 inputs Alarms Alarm See See Adatasheet for Smartpack2 for further information  **OTHER SPECIFICATIONS**  Isolation 3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVDC – output earth  5.5 KVDC – output earth  6.5 KVDC – output earth 6.5 KVDC – output earth 7.5 KVAC – input earth 8.5 KVAC – input earth 9.5 KVDC – output ear	OUTPUT	
See Flatpack2 – 3kW 48V <sub>DC</sub> datasheet See Powerpack 48V <sub>DC</sub> datasheet  CONTROL AND MONITORING  Monitoring Unit Smartpack2 Local Operation Display and keys, WEB interface via standard browser using WebPower Remote Operation WebPower (WEB Interface, SNMP protocol and email) Alarm Relays (Connection: clamp ≤ 1.5 mm²) 6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts Inputs 6 x Configurable (digital, analog max 75V) Optional expansion up to 272 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  OTHER SPECIFICATIONS  Isolation 3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVDC – output earth 0.5 KVDC – output earth 40 to +85°C (-40 to +185°F) Weight /per cabinet Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety IEC 60950, UL 60950, IEC 62040 EMC ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry) ETS 300 019-2-1 (storage)	Voltage	220Vdc 380Vdc
Monitoring Unit   Display and keys, WEB interface via standard browser using WebPower	Additional info	See Flatpack2 – 3kW 48V <sub>DC</sub> datasheet
Local Operation  Display and keys, WEB interface via standard browser using WebPower  Remote Operation  WebPower (WEB Interface, SNMP protocol and email)  Alarm Relays (Connection: clamp ≤ 1.5 mm²)  6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts  Inputs  6 x Configurable (digital, analog max 75V) Optional expansion up to 272 inputs  Alarms  Low & high output voltage alarms (Minor and major levels), Earth fault alarm, Temperature alarm, Mains outage alarms, Battery remaining capacity/low quality alarms, Battery/load breaker tripped alarm and much more. See datasheet for Smartpack2 for further information  OTHER SPECIFICATIONS  Isolation  3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVPC – output earth 0.5 KVPC – output earth 1.5 KVAC – input earth 2.5 KVPC – output earth 2.5 KVPC – output earth 2.5 KVPC – output earth 2.5 KVPC – alarms (3996,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  Electrical safety  EC 60950, UL 60950, IEC 62040  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-6 (immunity, industry) EN 61000-6-2 (emission, light industry) ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	CONTROL AND MONITORING	
Remote Operation  WebPower (WEB Interface, SNMP protocol and email)  Alarm Relays (Connection: clamp ≤ 1.5 mm²)  6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts  6 x Configurable (digital, analog max 75V) Optional expansion up to 272 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  OTHER SPECIFICATIONS  Isolation  3.0 KVAC - input and output 1.5 KVAC - input earth 0.5 KVDC - output earth  5torage temp.  -40 to +85°C (-40 to +185°F) Weight /per cabinet  Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  EC 60950, UL 60950, IEC 62040  EMC  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry) EN 61000-6-2 (transport)	Monitoring Unit	Smartpack2
Alarm Relays (Connection: clamp ≤ 1.5 mm²)  6 x Potential free change over contacts as standard. Optional expansion up to 160 changeover contacts  6 x Configurable (digital, analog max 75V) Optional expansion up to 272 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  OTHER SPECIFICATIONS  Isolation  3.0 KVAC − input and output 1.5 KVAC − input earth 0.5 KVDC − output earth  5.5 KVDC − output earth 0.5 KVDC − output earth  40 to +85°C (-40 to +185°F) Weight /per cabinet  Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  EC 60950, UL 60950, IEC 62040  EMC  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry) EN 61000-6-2 (immunity, industry) EN 61000-6-2 (immunity, industry) ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	Local Operation	Display and keys, WEB interface via standard browser using WebPower
Optional expansion up to 160 changeover contacts  Inputs 6 x Configurable (digital, analog max 75V) Optional expansion up to 272 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  OTHER SPECIFICATIONS  Isolation 3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVDC – output earth 0.5 KVDC – output earth 4.5 to +85°C (-40 to +185°F) Weight /per cabinet  Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  EC 60950, UL 60950, IEC 62040  EMC ETSIEN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-3 (immunity, industry) EN 61000-6-2 (immunity, industry) En 61000-6-2 (immunity, industry) Environment ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	•	WebPower (WEB Interface, SNMP protocol and email)
Optional expansion up to 272 inputs  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  OTHER SPECIFICATIONS  Isolation  3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVDC – output earth 0.5 KVDC – output earth 0.5 KVDC – output earth 40 to +85°C (-40 to +185°F)  Weight /per cabinet  Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  IEC 60950, UL 60950, IEC 62040  EMC  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry)  Environment  ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	·	Optional expansion up to 160 changeover contacts
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Isolation  3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVDC – output earth  5torage temp.  -40 to +85°C (-40 to +185°F) Weight /per cabinet  Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  IEC 60950, UL 60950, IEC 62040  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry)  Environment  ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	Alarms	alarm, Temperature alarm, Mains outage alarm, Battery remaining capacity/low quality alarms, Battery/load breaker tripped alarm and much
1.5 KVAC - input earth 0.5 KVDC - output earth  Storage temp.  -40 to +85°C (-40 to +185°F)  Weight /per cabinet  Appr. 180kg (396,8 lbs) excl. modules  APPLICABLE STANDARDS  Electrical safety  IEC 60950, UL 60950, IEC 62040  EMC  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry)  Environment  ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	OTHER SPECIFICATIONS	
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APPLICABLE STANDARDS  Electrical safety  EMC  ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry) Environment  ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	Storage temp.	-40 to +85°C (-40 to +185°F)
Electrical safety  EMC  ETSI EN 300 386 V.1.3.1 (telecommunication network)  EN 61000-6-3 (emission, light industry)  EN 61000-6-2 (immunity, industry)  Environment  ETS 300 019-2-1 (storage)  ETS 300 019-2-2 (transport)	Weight /per cabinet	Appr. 180kg (396,8 lbs) excl. modules
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EMC ETSI EN 300 386 $\lor$ 1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry) Environment ETS 300 019-2-1 (storage) ETS 300 019-2-2 (transport)	Electrical safety	IEC 60950, UL 60950, IEC 62040
ETS 300 019-2-2 (transport)		EN 61000-6-3 (emission, light industry)
	Environment	ETS 300 019-2-2 (transport)

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