

Rectifier-Indoor system

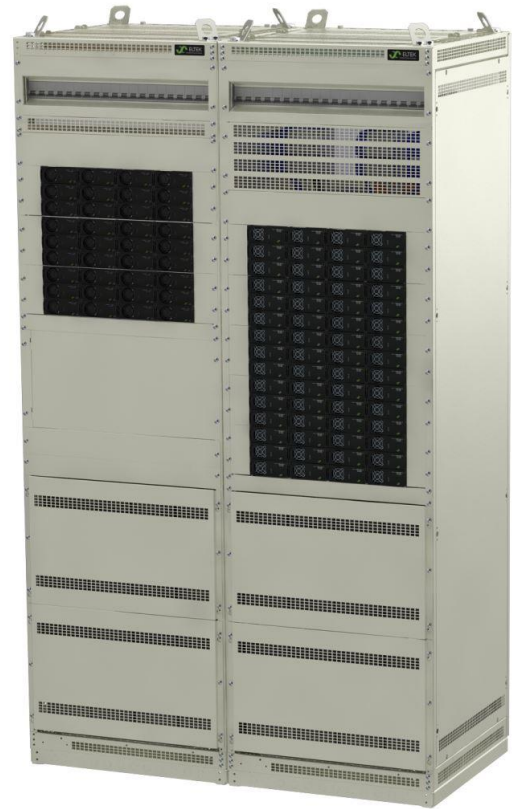
Scalable system 120 kW with optional A & B, AC input

The scalable Rectifier indoor system provides backup power for 400 V_{AC} 3-phase or 230 V_{AC} 1-phase loads, and 48 V_{DC} power for DC loads and battery charging.

The system has a maximum load capacity of 108 kW, which is dynamically variable to provide AC outputs up to 90 kVA / 72kW and also feed DC loads up to 72 kW with built in AC & DC distribution.

When used in combination with the optional B-input (dual AC input) which eliminates the need for a traditional ATS (Automatic Transfer Switch), the Rectifier indoor system represents the ultimate in flexibility and scalability.

When configured with dual AC input for use as an AC UPS, it is classified as - VFI SS 111 according to EN 62040-3



Rectifier-Indoor system

Scalable system 120 kW, with optional A & B AC input

Doc CTEJ6043.48.DS3 – rev2

MODULAR ARCHITECTURE

RECTIFIER MODULE

The 3 port converter simultaneously provides power for AC and DC loads. During mains outage the Rectifier 48/1200 HE feeds AC loads using energy stored in the battery.

The modular architecture, industry-leading efficiency, compact size, innovative design and comprehensive monitoring and control features provide significant benefits over the current industry standard.



Rectifier Module

APPLICATIONS

TELECOM-MOBILE/WIRELESS

- LTE/4G/WiMAX
- Distributed antenna system
- Broadband
- Radio base stations/cell sites
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RAILWAY & METRO INFRASTRUCTURE

- Control & protection
- Signaling
- GSM-R
- Safety Systems
-

POWER UTILITIES

- Control & protection
- SCADA system

KEY FEATURES

- 400 V_{AC} 3 PHASE (Y) INPUT
- 400 V_{AC} 3 PHASE (Y) OUTPUT
- - 48 V_{DC} INPUT/OUTPUT
- MAX 90 KVA / 72 KW AC OUTPUT
- MAX 72 KW DC OUTPUT
- AC DISTRIBUTION
- DC DISTRIBUTION OPTION
- LVBD OPTION
- A+B OPTION (DUAL AC INPUT)
- UP TO 4 BATTERY STRINGS
- BUILT IN TRANSFER TECHNOLOGY
- 150% OVERLOAD CAPABILITY, 15S
- 600% QUICK TRIP CURRENT, 20MS
- HOT PLUGGABLE
- SMARTPACK 2 CONTROLLER
- OPERATES IN PARALLEL WITH FLATPACK2 RECTIFIERS
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY

Scalable System 120kW A+B AC input

Doc CTEJ6043.48.DS3 – rev2

MODEL	120 KW
Part number	CDEJ6042.xxxx
INPUT DATA	
Voltage range AC (3 phase Y)	320-475 V
Voltage range DC	40-58 V
Maximum current AC (per phase)	140-240 A
Frequency	50 Hz / 60 Hz
Power factor	> 0.99
OUTPUT DATA	
Adjustable range AC (3 phase Y)	346-415 V
Adjustable range DC	43-58 V
Max output power AC	90 kVA / 72 kW
Max output power DC	72 kW
Admissible load power factor	0 Ind. to 0 Cap.
Frequency	50 Hz / 60 Hz
Battery breaker (1-pole)	2*1600 A or 4*600 A
OPTIONS	
B-input (dual AC input)	108 kW
DC distribution	1 pole, 1-125 A
LVBD (1-pole)	1800 A

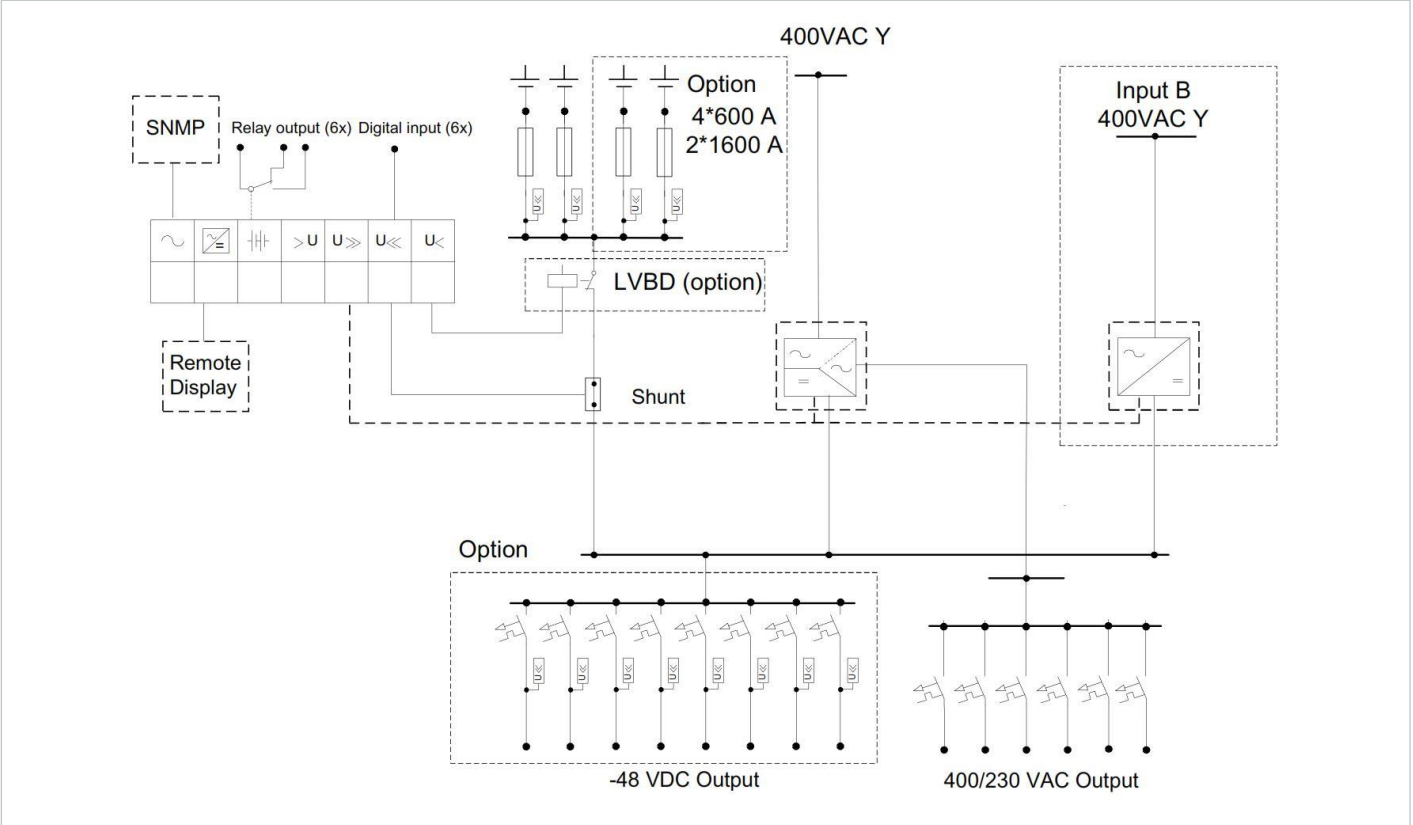
Specifications are subject to change without notice

FRONT VIEW 120 KW + 108 KW B-INPUT



Rectifier system with optional B input (without front covers)

SINGLE LINE DIAGRAM 120 KW + 108 KW B-INPUT



Scalable System 120kW A+B AC input

Doc CTEJ6043.48.DS3 – rev2

Models / ordering information		120 kW + 108 kW B-input
Product family	CDEJ6042.xxxx	
AC OUTPUT DATA		
Voltage (default) / (adjustable range) ¹⁾	400 V _{AC} 3 phase (Y) / 346-415 V _{AC}	
Frequency (default inverter mode)	50 Hz (adaptive)	
Frequency (set-able inverter mode)	50Hz, 60Hz or last synced 50/60Hz (adaptive)	
Power maximum (continuous / overload (<15s))	72 kW (90 kVA) / 120kVA	
Current maximum/phase (continuous / overload (<15s))	130 A _{RMS} / 174 A _{RMS}	
Current (maximum) Quick trip/phase (20ms)	640 A (6 x nominal)	
Hold up (Voltage dips) (before switching to battery)	> 5 ms @ 72 kW load	
THD	< 1.5 % at resistive load	
Output features	Module: Fuse in L and N , Hot pluggable 1 pole or 3 pole AC distribution (connection directly on MCB) Max breaker capacity according to recommended max breaker for rectifier module	
DC OUTPUT DATA		
Voltage (default) / (adjustable range)	53.5 V _{DC} / 43 - 58 V _{DC}	
Power (maximum @nominal input)	72 kW ²⁾	
Current (maximum @V _{OUT} ≤ 48 V _{DC})	1500 A ²⁾	
Hold up time, maximum output power	>10ms; V _{OUT} > 41 V _{DC}	
Output features	Short circuit proof, Over voltage Shutdown	
INPUT DATA		
AC Mains Input Voltage(3 phase Y)	320-475 V _{AC} ,	
AC Current/phase(at nominal output voltage) (depending on module type)	140-240 A _{RMS} ⁴⁾	
Frequency (default: sync range)	47-53 & 57-63 Hz	
Frequency (set-able: sync range)	47-53 Hz, 57-63 Hz or both (adaptive)	
Power Factor / THD	> 0.99 at 50% load or more / < 3.5%	
DC Voltage nominal / extended range (no overload) ³⁾	45 - 58 V _{DC} / 40 - 45 V _{DC}	
DC Current (maximum)	1920 A / 2700 A during overload (15s)	
Input features	Module : Fuse in L and N, Hot pluggable, Varistor, Hot pluggable AC input individual screw terminals 150 mm2 for L1-L3, N & PE	
BATTERY BREAKER		
1-pole battery breaker	2*TPS 2 holder (800-1600 A)	4*TPS 00 holder (250-600 A)
OPTIONS		
B-input maximum power (with FP2 HE, 2 kW rectifiers)	72 kW	
B-input maximum power (with FP2 HE, 3 kW rectifiers)	108 kW	
DC distribution (connection directly on breaker)	1-125 A, 1 pole breaker (max 30 pc 18 mm, max 20 pc 27 mm)	
LVBD (1-pole)	1800 A	
OTHER SPECIFICATION		
Efficiency	>96% (mains mode (AC/AC and AC/DC)), >94% (inverter mode (DC/AC))	
Protection Class	IP 20	
Operating temperature	-40 to +55°C (-40 to +131°F), humidity 5 - 95% RH non-condensing	
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing	
Dimensions[WxDxH] / Weight	1200 x 600x 2000mm (23,7 x 23,7 x 78,8") / 300 kg (1100 lbs)	
DESIGN STANDARDS		
Electrical safety	EN 60950-1, EN 62040-1 UPS safety	
EMC	ETSI EN 300 386 V.1.6.1, FCC CFR 47 Part 15 EN 61000-6-1 /-2/-3/-4, EN62040-2	
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) Normal operating conditions to be as per IEC/EN 62040-3:2011 clause 4.1 RoHS (2011/65/EU) and WEEE (2002/96/EC) compliant	
¹⁾ Output voltage ranges configured in factory and have individual keying in top chassis ²⁾ AC load has priority. Maximum available DC output power and current is dependent on instant AC load and AC input voltage; i.e maximum 48kW/1000 A at full AC power and nominal input for 230V _{AC} . ³⁾ 40 - 45 V _{DC} : reduced performance - no power boost and increased voltage THD on AC output. ⁴⁾ If DC voltage is pulled below 43V the input current may increase above this level		

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