

Rectifier Indoor system

Scalable system 18-54 kVA with optional A & B, AC input

The scalable Rectifier indoor system provides AC backup power for 400 V_{AC} 3-phase or 230 V_{AC} 1-phase loads, and 110 V_{DC} power for battery charging and optional DC loads. The flexible DC output can be set to recharge large battery backup with protection time up to 10 hours.

In combination with the optional B-input (dual AC input) eliminates the need for a traditional ATS (Automatic Transfer Switch). Where the switch from A to B input, is a seamless operation with no interruption on the AC load.

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



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Doc CTEJ3643.110.DS3 – rev2

MODULAR ARCHITECTURE

RECTIFIER MODULE

The 3 port converter simultaneously provides power for AC and DC loads. During mains outage the Rectifier 110/1200 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
- 110 V_{DC} INPUT/OUTPUT
- MAX 54 KVA / 43,2 KW AC OUTPUT
- MAX 43,2 KW DC OUTPUT
- PROTECTED BULK AC OUTPUT
- A+B OPTION (DUAL AC INPUT)
- MANUAL BYPASS OPTION
- UP TO 2 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 18-54 kVA, A+B input ELTEK

A Delta Group Company

Doc CTEJ3643.110.DS3 – rev2

MODEL	72 kW
Part number	CIEJ3643.xxxx
INPUT DATA	
Voltage range AC (3 phase Y)	320-475 V
Voltage range DC	90-145 V
Maximum current AC (per phase)	92-138 A
Frequency	50 Hz / 60 Hz
Power factor	> 0.99
OUTPUT DATA	
Adjustable range AC (3 phase Y)	346-415 V
Adjustable range DC	97-145 V
Max output power AC	54,0 kVA / 43,2 kW
Max output power DC	43,2 kW
Admissible load power factor	0 Ind. to 0 Cap.
Frequency	50 Hz / 60 Hz
Battery breaker (2-pole)	2*630 A
OPTIONS	
B-Input (dual AC input)	48 kW
Manual Bypass Switch	Internal

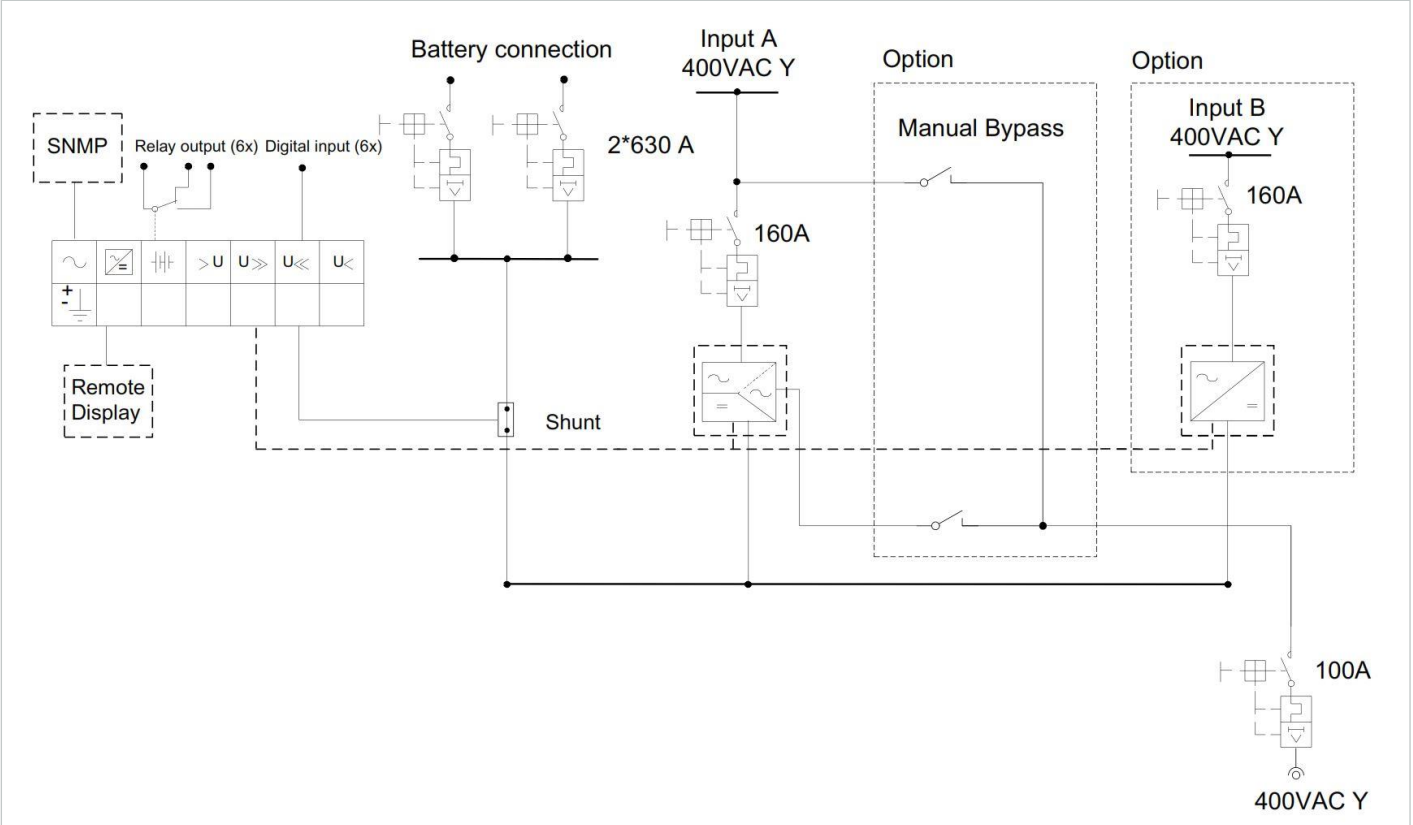
Specifications are subject to change without notice

FRONT VIEW 54 KVA + 48 KW B-INPUT



Rectifier 54 kVA + 48 kW B-input (without front covers)

SINGLE LINE DIAGRAM 54 KVA+48 KW B-INPUT



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Max output power DC	43,2 kW
Admissible load power factor	0 Ind. to 0 Cap.
Frequency	50 Hz / 60 Hz
Battery breaker (2-pole)	1*880 A
Load Breaker (2 pole)	1*630 A
OTHER SPECIFICATIONS	
B-Input (dual AC input)	48 kW
Manual Bypass Switch	Internal

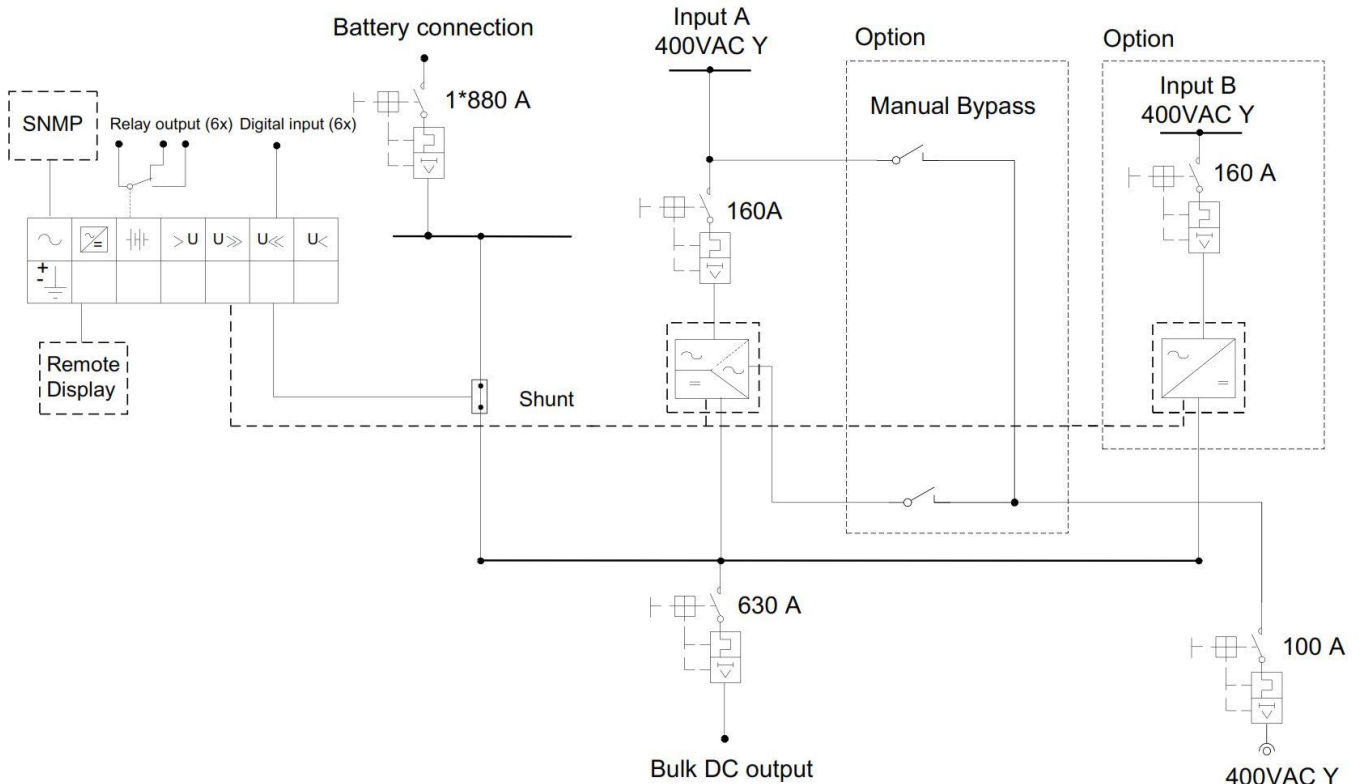
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FRONT VIEW 54 KVA + 48 KW B-INPUT



Rectifier 54 kVA + 48 kW B-input (without front covers)

SINGLE LINE DIAGRAM 54 KVA + 48 KW B-INPUT



Scalable System 18-54 kVA, A+B input

Doc CTEJ3643.110.DS3 – rev2

Models / ordering information	54 kVA + 48 kW B-Input	54 kVA + 48 kW B-Input
Product family	CIEJ3643.4xxx	CIEJ3643.4 xxx
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))	43,2 kW (54 kVA) / 72 kVA	
Current maximum/phase (continuous / overload (<15s))	78A _{RMS} / 104,4A _{RMS}	
Current (maximum) Quick trip/phase (20ms)	380A (6 x nominal)	
Hold up (Voltage dips) (before switching to battery)	> 5 ms @ 43,2 kW load	
THD	< 1.5 % at resistive load	
Output features	Module: Fuse in L and N , Hot pluggable 100 A MCCB, AC output individual screw terminals 70 mm2 for L1-L3, N & PE	
DC OUTPUT DATA		
Voltage (default) / (adjustable range)	122,5 V _{DC} / 97 - 145 V _{DC}	
Power (maximum @nominal input)	43,2 kW ²⁾	
Current (maximum @V _{OUT} ≤ 48 V _{DC})	400 A ²⁾	
Hold up time, maximum output power	>10ms; V _{OUT} > 97 V _{DC}	
Output features	Short circuit proof, Over voltage Shutdown Battery input /output connection to M10 bolt	
INPUT DATA		
AC Mains Input Voltage(3 phase Y)	320-475 V _{AC} ,	
AC Current/phase(at nominal output voltage) (depending on module type)	92-138 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⁾	102 - 145 V _{DC} / 90 - 145 V _{DC}	
DC Current (maximum)	450 A / 648 A during overload (15s)	
Input features	Module : Fuse in L and N, Hot pluggable, Varistor, Hot pluggable 160 A MCCB, AC input individual screw terminals 70 mm2 for L1-L3, N & PE	
BATTERY & LOAD BREAKER		
2-pole battery breaker	2*MCCB 630 A	1*MCCB 880 A
2-pole load breaker	-	1*MCCB 630 A
OPTIONS		
B-input maximum power (with FP2 HE, 2 kW rectifiers)	48 kW	
Manual Bypass switch	2*160 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	600 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/-4/-5	
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 4.2 Other operating conditions as per IEC 62040-3:2011 clause 4.3, must be advised 2011/65/EU (RoHS) & 2012/19/EU (WEEE)	
<p>1) Output voltage ranges configured in factory and have individual keying in top chassis</p> <p>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 28,8kW/260 A at full AC power and nominal input for 230V_{AC}.</p> <p>3) 90 - 102 V_{DC}: reduced performance - no power boost and increased voltage THD on AC output.</p> <p>4) If DC voltage is pulled below 97 V the input current may increase above this level</p>		

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