معرفی شرکت دیود الکتریک (صادیران)

مقدمه :

صنایع الکترونیک دیود الکتریک(صادیران) با اتکا بر دانش پرسنلی کارآزموده و مجرب، با هدف مشاوره ، طراحی ، تولیدو پشتیبانی سیستم های برق در سال 1354 تاسیس شده و مشغول به انجام خدمت می باشد. این شرکت با توجه به مشکلات رایج و همیشگی موجود در زمینه تولید ، انتقال و توزیع شبکه های برق توجه خاصی را به تجهیزات اصلاح کننده اینگونه مشکلات از جمله UPS و استابیلایزر و ... معطوف داشته و سعی کرده است با انجام انواع مطالعات دقیق کارشناسی و علمی ، بهترین و با صرفه ترین راه حل درمان را به مشتریان خود پیشنهاد دهد.

واحد مشاوره و طراحی

این واحد از شرکت با ارائه مشاوره تخصصی و انجام طراحی های فنی در خصوص تاسیسات صنعتی از جمله : <u>طراحی روشنایی</u> ، سیستم زمین ، <u>حفاظت کاتودیک</u> ، <u>سایزینگ کابلها ، تابلوهای برق</u> و . . . با رعایت انواع استانداردهای معتبر و مرتبط جهانی ، مشغول اجرای پروژه های صنعتی مرتبط با صنعت نفت ، گاز و پتروشیمی و... می باشد.

واحد مديريت پروژه

پیاده سازی یک مدیریت پروژه قوی و با روندی صحیح ، باعث کاهش محسوس زمان و هزینه های بهره برداری مربوط به آن پروژه خواهد شد .این مساله همیشه خود را در انتهای پروژه ها نشان می دهد که در آن مقطع برای بسیاری از تصمیم گیری ها دیر شده است. شرکت دیود الکتریک (صادیران) با درک اهمیت موضوع فوق روش های خاصی را جهت پیاده سازی پروژه های طراحی و اجرا بکار می برد که باعث شده موفقیت های چشمگیری را در این زمینه کسب کند.

واحد آموزش electric Co. Ltd.

شرکت دیود الکتریک(صادیران) با این باور تاسیس گشت که " آموزش بخش جدانشدنی از زندگی امروزی است " .با این دیدگاه و در راستای ارتقای سطح علمی مدیران ، متخصصین، اساتید، کارشناسان ، دانشجویان و با علم به کمبود های آموزش دانشگاهی در این زمینه،اقدام به برگزاری دوره های آموزشی نموده است .

واحد بازرگانی

بخش بازرگانی شرکت در زمینه فروش تجهیزاتی از جمله UPS ، استابیلایزر، اینورتر ، شارژر ، DCS ، تابلو های برق و ... فعالیت دارد. ما معتقدیم جهت تجویز صحیح تجهیزات الکتریکی، هم از لحاظ فنی و هم از لحاظ هزینه، تنها دانستن مسایل بازرگانی و انواع مارک ها کافی نبوده و داشتن دانش فنی و تخصصی بالا از ملزومات این بخش می باشد.حصول موفقیت دراین امر در شرکت های صرفا بازرگانی که دارای افرادی با دانش غیر مرتیط می بباشند بسیار کند و کم رنگ می باشد. ما معتقدیم دانش امری مقدس بوده و نباید علم را قربانی سودجویی نمود.

Power disturbar	nce	
Power outage	$\sim \sim$	«« (Uninterruntible nower supply)
Transients	-γψγγγ	
Harmonics	$\mathcal{M}\mathcal{M}$	UPS دستگاهی ارزشمند است که از سوی صنعت برق جهت برآورد 2 هدف کلی زیر طراحی شده است :
Rms variations	$\sim \sim \sim$	
Frequency variations		

1- اصلاح و سالم نمودن برق ورودی به مصرف کننده (محافظت برق) و در واقع ایمن نمودن مصرف کننده در مقابل انواع آسیب های جریان و ولتاژ برق از جمله : اضافه ولتاژها، نوسانات ولتاژ و جریان و . . .

2- برق دهی به مصرف کننده در زمان قطعی برق

ب) مزایای استفاده از UPS چیست؟؟؟

1- عدم آسيب ديدن (سوختن) مصرف كننده

2- افزایش عمر و سلامت مصرف کننده

3- با برق رسانی در مواقع قطعی برق <mark>شهر، اح</mark>تمال از دست رفتن اطلاعات و <mark>برنامه ها</mark> ی در حال اجرا بر روی هاردها،رایانه ها، سرورها، شبکه های امنیتی ، تابلوهای کنترل وفرمان و . . . را از بین می برد.

ج) تنوع مصرف کنندگان :

از آنجاکه UPS های این شرکت از رنج 650 VA تا 800 kVA موجود می باشد ، تمام رایانه های خانگی ، سرورها، تجهیزات شبکه ، تجهیزات امنیتی مانند دوربین های مدار بسته، تجهیزات مخابراتی مانند سانترال و بیسیم ، تجهیزات حساس صنعتی مانند PLC ها و در کل تمام مصرف کننده گان حساس صنعتی و غیر صنعتی می توانند تحت پوشش UPS در آیند.

صحبتی دوستانه:

در زير 3 جمله مهم و سرنوشت ساز را برايتان مطرح مي كنيم و انتخاب به عهده خودتان است :

1- همیشه افرادی در زندگی خو د موفق بوده اند که زودتر از دیگران موقعیت های حساس آینده را پیش بینی کرده و خود را برای مواجه با آنها آماده و تجهیز نموده اند.در آن صورت زمانی که دیگران کاسه چه کنم دست گرفته اند آنها با خیالی آسوده و احساسی آکنده از غرور بخاطر تیزبینی خود، به بهره برداری و پیشرفت خود ادامه می دهند.

2- آیا شما از آن دسته افرادی هستید که به پیشگیری اعتقاد دارید یا درمان بعد از ابتلا ؟؟؟

3- و اما در آخر توجه داشته باشید که فرهنگ غنی و پربار ایرانی به ما می گوید علاجه واقعه قبل از وقوع باید کرد.



Th Se	ieta iries	Om Se	nega ries	Me Sei	ega ries	Gamma Series	Beta Series	Alpha Series			
TR	DSP	TR	DSP	TR	DE			DE	D	مشحصات	رديف
		Onli	ine		1	Line into	eractive	Offli	ne		
										تكنولوژى مىكروپروسسوري	1
										تنظيم ولتاژ اتوماتيک	2
										مديريت شارژ و دشارژ باتري	3
										سيستم حفاظت مودم/فكس/تلغن	4
										پورت ارتباطی RS232	5
										قابلیت حفاظت در مقابل اتصال کوتاه، اضافه بار و صاعقه	6
										داراي فن	7
										بدنه فلزي	8
								2000 VA		عمل شروع بكارگيرې تدريجې براې بارهاې حساس	9
								2000 VA		امكان استفاده بصورت AVR بدون اتصال باتري	10
										دارای شارژر قوی جهت اضافه کردن باتری	11
										داراي تصحيح کننده ضربب فدرت (PFC)	12
										دارای حالت شارزسریع (Fast Charge)	13
										امکان استفاده از کارت SNMP	14
						6.2				میکروکنترلر از نوع DSP	15
										کنترل میکروبروسسوري و بکارگیري تکنولوژي PWM & IGBT	16
										استفاده از یکسو کننده 12 پالس	17
										خروجي ايزوله بوسيله ترانسفورماتور	18
										کلید باي پس دستې و اتوماتيک	19
				-						قابلیت اتصال موازی	20
										قابلیت کار با ژنراتور	21

تذکر 1 : سری Beta , Gamma دارای شارژر قوی تری نسبت به سری Alpha ، جهت اضافه کردن باتری های با رنج بالا میباشند(آمبر شارژ تا 25 آمبر افزایش می یابد).

تذکر 2 : دستگاه ها شامل 14 ماه گارانتی می باشند..

<u>شماره های تماس : 09125340446 - 22766357 - 22080059</u>



با سلام و احترام :

نوع دستگاه	محل نصب	شماره
UPS - 15kVA	شرکت آبمیوہ را نی (عوجان ایرانیان)	١
UPS - 10kVA	شرکت گلدیران (LG)	٢
UPS - 15kVA	شرکت نفت و گاز سرو / آقای تفرشی	٣
UPS - 20kVA	شرکت بازرگانی و ماشین آلات همیار ماشین	۴
UPS - 3kVA	مرکز آموزش فنی حرفه ای سبزوار / آقای مهرآبادی	۵
UPS - 10kVA	شرکت آبمیوه مغان سو / آقای شجاع	۶
UPS - 3kVA	نمایندگی ۱۰۸۰ ایران خودرو / آقای صمیعی	٧
UPS - 3kVA / 10kVA	آزمایشگاه آریا / آقای علوی	٨
UPS – 1*160kVA	بیمارستان جم (گروه پزشکی جم)	٩
UPS – 1*160kVA	بیمارستان گنجوی دزفول	١٠
UPS – 1*160kVA	شرکت پرتو آبی (قزوین)	11
UPS – 1*160kVA	دانشگاه شهید چمران اهواز	17
UPS – 1*120kVA	بيمارستان طالقاني كرمانشاه	۱۳
UPS – 1*120kVA	دانشگاه علوم پزشکی کرمان	14
UPS – ۱ສ ۱۰۰ kVA	مركز MRI زنجان	۱۵
UPS – 1*80kVA	بیمارستان گلستان (سی تی اسکن)	18
UPS – 1*80kVA	دانشگاه علوم پزشکی همدان	١٧
UPS – 1*80kVA	سی تی اسکن مرکزی اصفہان	١٨
UPS – 1*80kVA	سامانه تميز – وزارت دفاع	١٩
UPS – 1*80kVA	فولاد چهارمحال بختیاری – ورق خودرو	۲.
UPS – 1*80kVA / 2*10kVA / 5*6kVA	صدا و سیما اصفهان	٢١
UPS – 1*60kVA	کارخانجات مس کاران	77
UPS – 1*70kVA	اداره انفورماتيك اطلاعات ارتش	۲۳
UPS – 1*20kVA	بيمارستان آراد	74
UPS – 1*160kVA	بیمارستان دی	۲۵
UPS – 1*160kVA	بيمارستان كوثر	78

نمونه هایی از پروژه های انجام شده و دستگاه های نصب شده از مارک INFORM :

Line interactive UPS / GAMMA Series

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Technical specification:

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model		GAM3511	GAM 5011	GAM 7011	GAM 1022	GAM 1522	GAM 2023	
capacity		500VA	700 VA	1000 VA	1500 VA	2000 VA	3000 VA	
la ne st	voltage range			80v-2	280v AC			
input	frequency rang			50ł	זz±3%			
	AVR			Four steps A	VR, 230v±1	0%		
output	Inversion voltage			230v±3%	/ Cos Q = 0.7	7		
	inversion frequency							
D	C voltage	1	2v	24	4v	48v		
O/F	waveform	Pure Sine wave						
	THD	≤3%						
Tra	ansfer time	≤3ms Automatic transfer						
Rech	arge current		10-15A		15-30A			
Trans	sfer efficiency		85%	90-96%				
P	rotections	Protection against short-circuit, overload						
Comm	unication ports	Rs232						
Unit size(mm)			372*12		379*145*215	460*192*335		
N.W(KG)		6.8	7.8	10.8	12	20.5	23.5	
G.W(KG)		7.8	9.4	12.3	13.5	22.5	25.5	
Shipping size(mm)		485*442*330 2pcs				400*293*218 2pcs	570*297*442 1pcs	

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Owner :	Project :		Contractor :
			DIDE electric Co, Idd 1554 ort
	UPS spe	ecification	Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 1 of 13

UPS Specification								
003	IEA	MG	A Miri	Δ.7	10.04.2010			
REV.	PURPOSE OF ISSUE	PREPARED BY	REVIEWED BY	APPROVED BY	DATE			

Owner :	Project :		Contractor :
			DIODE electric Co. Ltd. 1554 cmb
	UPS spe		Diode Electric Co.
DOCUMENT No.: DI-PTA-EL-A 020		REV. : 000	Pages: 2 of 13

TABULATION OF REVISED PAGES

PAGE	REV.0	REV.1	REV.2	REV.3	REV.4		PAGE	REV.0	REV.1	REV.2	REV.3	REV.4
1	X						24					
2	Х						25					
3	x						26					
4	X						27	A				
5	X						28					
6	X						29			_		
7	X						30					
8	Х						31					
9	Х						32		Ť			
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23							12					

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	UPS spe	ecification	Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 3 of 13

Table of Contents

Contents	
TABULATION OF REVISED PAGES	2
Table of Contents	3
1. GENERAL DESCRIPTION AND SCOPE	4
2. CODES AND STANDARDS	4
3. OPERATION AND DUTY.	5
4. DESIGN DATA	6
5. Operation Modes	10
6. Instrumentation	11
7. Mechanical Design	12
8 Electrical Characteristics	13

Owner :	Project :		Contractor :
			HODE electric Co. Ltd. 1354 unit
	UPS spe	ecification	Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 4 of 13

1. GENERAL DESCRIPTION AND SCOPE

- This specification covers the design, supply, delivery, installation, testing and commissioning of a continuous duty uninterruptible power supply system.
- The uninterruptible power supply system, hereafter referred to as the UPS system, shall operate in conjunction with low voltage distribution system. In the event of an emergency it shall be able to supply independently of clean and regulated uninterruptible power for control system, instruments, local control panels and other critical loads.
- The equipment shall be designed and constructed to ensure safety, reliability and service continuity, minimum maintenance requirements and easy installation. Also the equipment output voltage range shall be 400Vac with minimum 30 min backup time.
- Input voltage: 400/400V, 50HZ, 3-Phase/N

Comprising: -Rectifier/chargers

- -Battery bank, with one set of sealed lid acid batteries
- -Inverter with output rating 160 kW.
- -Stabilizer
- -By-Pass transformer
- -Complete set of measuring & controlling equipment for the system according to S.L.D. and specification.

2. CODES AND STANDARDS

- The equipments covered by this Specification, including all components and auxiliaries, shall be designed, manufactured and tested in accordance with the latest IEC Standards wherever they may apply, and in particular:
- a) IEC 60086, Primary Batteries
- b) IEC 62040-3 Method of specifying the performance and test requirements
- c) IEEE 484 "Design and Installation of Large Lead Acid Batteries for Generating and Substations."
- d) IEC 62040-1-1 General and safety requirements for UPS used in restricted access locations
- e) IEC 62040-2 EMC Requirements
- f) IEC 60119 Recommendations for Polycrystalline Semiconductor Rectifier

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	UPS specification		Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 5 of 13

Stacks and Equipments

- g) IEC 60146 Semiconductor Convertors
- h) IEC 60529 Classification of Degrees of Protection Provided by Enclosures
- i) IEC 60622 Nickel Cadmium Prismatic Rechargeable Single Cells
- j) IPS-M-El-176 Material and equipment standard for Uninterruptible Power System
- In the case of a conflict among the above listed Codes and Standards, the first listed shall govern unless otherwise advised in writing by the Purchaser. Bidders shall immediately notify the Purchaser in writing upon discovery of any conflicts in the above Codes and Standards.
- All Codes and Standards referred to here and elsewhere herein, shall mean the latest edition of said Code or Standard, including all amendments, annexes, etc.

3. OPERATION AND DUTY

- Refer to other documentation herewith for detailed information regarding site conditions.
- The equipment specified herein shall be, unless otherwise noted, designed and constructed for continuous operation at an altitude of 8.8 meters and ambient air temperature extremes between minus 0°C design outdoor minimum and plus 58 °C design outdoor maximum. The environment is dusty. The UPS will be installed in a ventilated electrical room and the lowest temperature during operation can be expected to be + 5°C±1.
- Site meteorological
- data follows:

A summary of the site conditions follow, all equipment shall be designed and rated to meet the following:

Plant elevation above sea level	: about 8.8 m
Air Temperature	: Max 52°C
	: Min 6°C
Design outdoor	: Max 58°C
	: Min 0°C
Design indoor	: Max 25°C±2

Owner :	Project :		Contractor :
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	UPS specific	ation	Diode Electric Co.
DOCUMEN	F No · DI-PTA-FL - A 020	RFV • 000	Pages: 6 of 13

		: Min 5°C±1
	Relative Humidity	: Max 96%
	2	: Min 25%
	Wind	: NW Max 30m/s
	Rainfall	: Max 78mm in winter season
		: Min 0mm in summer
	Soil Temperature	: Max 40°C
		: Min 10°C
-	Site power supply information follows:	
a)	Primary Distribution:	
	Voltage:	400 V ±10%
	Frequency:	50 Hz ±5%
	No. of Phases:	3
	Design fault level:	50
	kA, RMS Symmetrical	
	, in the second s	
b)	MCC Low Voltage Distribution:	
	Voltage:	400 V ±5%
	Frequency:	50 Hz ±5%
	No. of Phases:	3
	No. of Wires:	4
	Pretreatment MCC Design fa	ult level: 50 kA, RMS Symmetrical
	Earthing system:	TN-C-S
	Purpose:	- Power supply for 400 V,
		3phase
		- Distribution feeders
		- Welding socket outlets
		- Remote motor starters
		- Etc

4. DESIGN DATA

4.1. General

- Only "True-On-Line double conversion" technology, also called Voltage Frequency Independent (VFI), Operation with By-pass, according to IEC 62040-3 is accepted.

Owner :	Project :		Contractor :
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	UPS sp	ecification	Diode Electric Co.
DOCUMENT No	: DI-PTA-EL-A 020	REV. : 000	Pages: 7 of 13

- For safety purposes the UPS shall be equipped with a back feed protection contactor in the bypass circuit, complying with IEC 62040-1. This back feed protection shall be installed standard inside the UPS cabinet.

4.2. System Description

- The UPS system shall consist of the following major equipment:
- Rectifier
- Boost charger
- Battery charger
- Static inverter
- No-break static transfer switch
- Maintenance by-pass switch
- Battery bank
- Main control with LCD display
- By-Pass transformer
- Insulating transformer

4.2.1. Input Converter

The input converter shall consist of a rectifier which converts the utility voltage into an unregulated DC voltage. This unregulated DC voltage is converted in a regulated, controlled DC voltage by a boost charger. The boost charger supplies power to the inverter. The boost charger also provides a power factor corrected input to the UPS. The input converter shall have sufficient capacity to support a fully loaded inverter and at the same time maintain the battery in a fully charged condition.

4.2.2. Battery Charger

- a) If the battery is fully discharged, with the standard current, the battery charger shall recharge the battery to 90% of its fully charged condition preferably within six to eight (6-8) hours and at the same time supplying full load current to the system. Otherwise the UPS supplier shall specify the charging time required.
- b) The battery charger output voltage shall be automatically adjusted in proportion to the ambient temperature of the battery as per the battery supplier's recommendation to avoid over-charging.

Owner :	Project :		Contractor :	
	UPS sr	ecification	Diode Electric Co.	
DOCUMEN	T No.: DI-PTA-EL-A 020	REV.:000	Pages: 8 of 13	

- c) The rectifier/charger output current and voltage shall be limited to the battery supplier's recommendation.
- d) The batteries shall consist of NiCd type accumulator cells.
- e) Cell container and lid shall be vented type.
- f) All the batteries shall be furnished with the necessary construction and linking material.
- g) All batteries shall be sufficiently sized. Charging conditions shall be supervised and annunciated.
- h) All batteries shall be provided for mounting on tiered open stands.

4.2.3. Charger Construction

- The rectifier shall include provisions to automatically initiate high rate charging, here called equalize charging of batteries, upon restoration of AC power after an outage. The charging of batteries shall automatically reset to float charge, when the battery voltage reaches the nominal voltage.
- Means shall be provided to perform equalize charging of batteries manually. In such case, when the battery voltage reaches the nominal voltage, the charging mode shall reset automatically to float charge.
- The float charging is passing an electric current through the battery bank, by applying a constant DC voltage in order to maintain the battery in the state of fully charged condition.
- The rectifier shall include an adjustable charging voltage range for float operation and a separate independent charging voltage range for equalize charging operation. The range settings shall vary from nominal battery voltage to 25% above the battery voltage.

4.2.4. Static Inverter

a) The conversion of DC to AC must be accomplished by power transistors of the IGBT type. Failure of any components or power stage shall not interrupt the AC

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	UPS spo	ecification	Diode Electric Co.
DOCUMENT No.	: DI-PTA-EL-A 020	REV. : 000	Pages: 9 of 13

output. Instead it shall disconnect itself from the configuration while transferring the load to the static transfer switch and activate an alarm.

- b) The inverter output voltage shall be controlled by microprocessor-based software (software generated sine wave). The waveform shall be fed through a filter circuit and protected by fast fuses. The inverter shall be able to handle short-circuit conditions without any damage.
- c) The neutral of the inverter output shall be electrically isolated from the UPS system chassis.
- d) The output frequency of the inverter shall be controlled by an oscillator, which can be operated as a free running unit or in synchronized operation with a separate AC source.

4.2.5. Electronic By-Pass Switch

- a) The electronic by-pass shall consist of a static SCR-switch, used to provide an uninterruptible transfer of the load to the utility in case of remarkable variation of the output voltage. In other words the electronic by-pass switch shall return the load automatically to the UPS when the malfunction or overload is cleared.
- b) The electronic by-pass switch shall be able to be activated manually by a switch/push button to test bypass operation. The switching time from inverter to reserve (bypass) and vice-versa shall be of No-Break.

4.2.6. Maintenance By-pass (By-Pass Switch)

- The maintenance by-pass shall be based on a manually operated switch which allows the electrical isolation of the UPS from the load while still supplying the load with power directly from the utility.
- The manual by-pass switch shall be mounted in a separate enclosure from the UPS cabinet to be electrically isolated or completely removed for maintenance.

4.2.7. By-Pass Transformer

- The double wound dry type air cooled transformer shall be provided in the bypass circuit. Single phase transformer can be connected across two phases of

Owner :	Project :		Contractor :
			Side Co. Ind.
	UPS sp	ecification	Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 10 of 13

the three phase supply or across one phase and earthed neutral. The secondary winding of the transformer shall be earthed. The KW rating of the bypass transformer shall not be less than 160KW (rated of the UPS system).

4.2.8. Insulating Transformer

- The by-pass isolating transformer shall be a noise-suppression dry type suitable for indoor location, and shall have an equivalent or greater rating than the UPS. Links shall be provided on primary winding to give off-load tapping of $\pm 2.5\%$ and $\pm 5\%$ of nominal voltage. The transformer shall be located in the manual by-pass switch enclosure or in its own enclosure for floor or wall mounting.

4.2.9. Battery

- a) A battery shall provide the UPS system with a stored energy source. The battery shall be of a type designed for standby power service. The cells shall be completely sealed lid acid.
- b) The ampere-hour rating of the battery shall be sufficient to support the inverter for the defined time with the inverter operating at full rated load at power factor 0.9.
- c) The end of discharge voltage of the batteries must be load dependent in order to prevent deep discharging of the batteries whilst utilizing maximum available capacity.
- d) The design life span of the battery shall not be less than 20 years.
- e) The battery shall be mounted on/in shelves/cabinet.
- f) Tendered shall submit full technical data of the battery offered under the tender and shall provide calculation to show the number of cells required and their capabilities which shall match the load requirement and the charging characteristics of the UPS requirement being offered.

5. Operation Modes

- The UPS system shall be able to operate in any of the following modes:

Owner :	Project :		Contractor :
			DIDDE electric Co Ltd
	UPS spe	ecification	Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 11 of 13

- a) On-line Mode: During on-line operation mode, the UPS system shall be used to provide precise regulated and transient-free power to critical loads. The mains supply provides power to the input converter. The input converter shall provide regulated DC power to support the inverter and simultaneously supply the battery charger to maintain the battery in a fully charged condition. The inverter shall convert the DC power into regulated AC power for the load.
- b) ECO Mode: When the load does not require highest level of protection, the UPS shall be able to work in an energy saving mode. This mode shall be fully programmable to adapt it to the load and customer needs. When ECO mode is activated the UPS switches automatically to bypass as a function of the actual mains quality. In case of a mains imperfection (out of tolerances) the UPS seamlessly returns to "On-line mode" without compromising the guarantee of total security for the critical loads. This mode will not be activated unless specifically requested by the client on site.
- c) Battery Mode: Upon failure of the mains supply, input power for the inverter shall automatically be supplied from the connected battery. If the input does not return, the UPS shall automatically shut itself down in an orderly manner when the discharge limit of the battery is reached.
- d) By-pass Mode: Upon the failure of static inverter, the no-break static transfer switch shall be activated automatically to isolate the faulty inverter and at the same time maintain a continuous supply to the system loads. The automatic transfer mode shall also operate in the event of system overloading or if irregular or undesirable output for the load is detected. In this case, the system shall automatically return to the original on-line mode operation if the disturbance is cleared.
- e) Manual By-pass Mode: If the UPS system needs to be isolated for service or maintenance, the maintenance by-pass shall transfer the load from inverter to the mains without interruption and vice versa.

6. Instrumentation

- A back-lit alpha-numeric character Liquid Crystal Display (LCD), controlled by push buttons shall be provided.
- The LCD back-lit display shall include the following measurements indications:
- a) Mains voltage and mains frequency, and the current delivered by the mains

Owner :	Project :		Contractor :
			DIDDE electric Co. Ltd. 1554 unit
	UPS spe	ecification	Diode Electric Co.
DOCUMENT No.	DI-PTA-EL-A 020	REV.:000	Pages: 12 of 13

- b) Output voltage and output frequency, and the current delivered by the UPS
- c) Battery voltage and DC link voltage
- d) Remaining runtime (during mains failure)
- e) The total operating time of the UPS and inverter
- The LCD back-lit display shall include the following indications or controls:
- a) Start of a battery test
- b) Forced (manual) transfer to bypass
- c) Enable/disable ECO mode
- The UPS control system with LCD back-lit display shall include the following settings:
- a) Setting of the system operating frequency
- b) Setting of the system output voltage
- c) Setting of the installed battery capacity
- d) Bypass enable/disable
- On the system alarm, a common audible alarm and indicating LEDs shall be initiated when any of the following conditions are present:
- a) UPS is on battery operation
- b) UPS is on bypass operation
- c) UPS is on manual bypass operation
- d) Output is not synchronized to input
- e) Bypass input is out of limits
- f) High temperature
- g) Overload
- h) Batteries need to be replaced
- i) Batteries have low voltage (battery low)
- The UPS must be able to store up to 256 alarms or events and shall be equipped with the RS 232 port for transmit events and alarms in necessary times.

7. Mechanical Design

- Enclosure: The UPS system and battery shall be housed in free standing steel cabinet with IP 20 protection class and with a minimum thickness of 1.5mm. The UPS cabinet color shall be RAL 7032.

Owner :	Project :		Contractor :
			COLODE Cleatric Co. Ind.
	UPS spe	ecification	Diode Electric Co.
DOCUMENT No.:	DI-PTA-EL-A 020	REV. : 000	Pages: 13 of 13

- Ventilation: Forced air-cooling shall be provided to ensure that all components are operated within specifications with air entry on the side and exit in the top.
- Cable Entry: Input to the system and outgoing cables shall be from the bottom of the cabinet.
- Power Connections: Adequate space for termination shall be provided for incoming and outgoing cables.

8. Electrical Characteristics

- Input Characteristics:
- a) Voltage: $400 \pm 10\%$ Vac, 3-phase (5% of nominal ,20% during motor starting and switching
- b) Frequency: $50 \pm 5\%$ Hz
- c) Power Factor: By Load
- d) THD: By Load
- Output Characteristics:
- a) Voltage: $400 \pm 1\%$ Vac, 1-phase
- b) Frequency: $50 \pm 1\%$ Hz
- c) Power Factor: 1
- d) THD: < 3% at linear loads and < 5% non linear loads
- e) Voltage Transient: $\pm 3\%$ (@ 100% Load)
- f) Recovery Time: <20 ms
- g) Overload Capability: 125% for 10 min / 150% for 1 min.
- h) Crest Factor: According to EN-50091 (3:1)
- UPS power and back up time will be finalized at detail design.

SAVERPLUSDSPSERIES

Uninterruptible Power Systems

True On - Line "Double conversion" Technology 3 Phase in, I Phase out 10 to 20 kVA



On - Line "Double conversion" technology

Real Digital Signal Processor (DSP) controlled, IGBT technology

Wide input voltage range (140V - 480V)

Increased Power Factor (>0,97)

Intelligent Battery Management System extends the Life Time of Batteries

Small Dimensions

Artificial intelligence algorithms to improve reliability and technical performance

Manual Bypass

LCD display

RS 232 and relay interface

Management and monitoring software available for all operating systems and SNMP support





SAVER PLUS DSP SERIES SPECIFICATIONS

	ТҮРЕ	SD3110	SD3115	SD3120
	Power (kVA)	10	15	20
INPUT				
	Nominal Voltage		380 V / 400V / 415V 3Phase, N	
	Minimum Voltage		140V 3Phase, N	
	Minimum Voltage (at full load)		260V 3Phase, N	
	Maximum Voltage		480V 3Phase, N	
	Frequency		50 - 60Hz (45 to 65 Hz)	
	Nominal Current	11.8 A / phase		23.3 A / nha
	Maximum Current	36 A peak / phase	53 A peak / phase	71 A neak / nh
	Power Factor	oo A peak / phase		////pcak/ph
BY-PASS			20,31	
	Voltage Tolerance		10% (adjustable)	
	Frequency Tolerance		3Hz (adjustable)	
	Transfor Time			
DATTEDV	Transier Time		0 ms	
DATTENT	_			
	Type		Maintenance Free Dry Type	
	Number of Batteries	20	32	32
	Recharging Time		< 4 h	
	Discharge Current Wave		< 10%	
OUTPUT				
	Nominal Voltage		220V / 230V (adjustable)	
	Wave Form		Sinus	
	Total Harmonic Distortion		< 3%	
	Frequency		50Hz or 60Hz (adjustable)	
	Voltage Regulation (Static)		%1	
	Crest Factor		3	
	Overload		> 30s (at 150 % load)	
	Total Efficiency		> 91%	
PROTECTION				
		Over	load Protection. Short Cicuit Prote	ction.
	Protections	High	Temperature, Over Voltage, Over C	Current
COMMUNICAT	TION INTERFACE			
	BS 232		Isolated according to EN60950	
	Free Contact		Isolated according to EN60950	
ENVIRONMEN			Isolated according to E1400930	
ERVITORIMEN	Tomporaturo		0 40 °C	
	Currented Temp to outend		0-40 C	
	Suggested temp. to extend		20-25 C	
	battery life		050/	
	Humidity		< 95%	
	Acoustic Noise		< 55dB, 1 m	
PHYSICAL SP	ECIFICATIONS			
	Net Weight (without battery)	55 kg	125 kg	130 kg
	Dimensions (mm) (WxDxH)	270x730x780	430x8	00x970
STANDARDS				
	Safety		EN50091-1	
	EMC		EN50091-2	
	Protection Class		IP 20	

SAVER DSP COMPACT SERIES

Online Double Conversion Technology 1 Phase in / 1Phase out 5 & 10kVA 3Phase in / 1Phase out 10,15&20kVA





'Uninterruptible Energy"

1SO 9001

- On line "double conversion" technology
- Real Digital Signal Processor (DSP) controlled IGBT technology
- Wide input voltage range
- Increased Power Factor
- Info Charger; Intelligent temperature controlled battery charging extends battery life
- Low Total Harmonic Distortion (THD) Level
- Small dimensions
- Smart fan speed regulation
- Artificial intelligence algorithms to improve reliability and technical performance
- LCD display
- Advanced communication possibility via RS 232 and relay interface
- Management and monitoring software available for all operating systems
- SNMP support

TECHNICAL SPECIFICATIONS

	Model	SDM 1105	SD1110	SDM3110	SDM3115	SDM3120	
	Power (kVA)	5	10	10	15	20	
INPUT							
	Phase Number	1Ph	ase		3Phase		
	Nominal Voltage	2201/	/230V		380/400V		
	Minimum Voltage	8)V		140		
	Minimum Voltage (at full load)	157	176		260		
	Maximum Voltage	137	01/		480		
	Frequency	20	00	45_65 Hz	400		
	Power Eactor	>0.0	0.0%	+J-0J 112	<u>>0 07 %</u>		
	Fower ractor	<i>></i> 0,5	59 70	>0,97 %			
UUTPUT	Nie odrach Malia a s			2017 (220) / (-1-)		
	Wave Form			Pure Sine Wave			
	Total Harmonic Distortion						
	at 100% linear load	<2,	5%		<3%		
	Frequency		50	Hz or 60Hz (adjustal	ole)		
	Frequency Tolerance(line synchronized)			0,005 %			
	Static Voltage Regulation (0%-100% load)			<1%			
	Crest Factor			3			
	Overload (on mains)(0-150% overload)	>63	sec	>30 sec	>30 sec	>30 sec	
	Overload (on battery)(0-150% overload)	>63	sec	>30 sec	>30 sec	>30 sec	
	Total Efficiency	> 91	,5%		> 91%		
	Greenmode efficiency			> 97%			
BATTERY							
	Туре	Maintenance Free Dry Type					
	Number of Batteries (standard/internal)	16pcs 12V 7Ah	20pcs 12V 9Ah	20pcs 12V 9Ah	24pcs 12V 12Ah	28pcs 12V 12Ah	
	Back up time (at nominal load)	8min	6min	6min	5min	5min	
	Recharging Time			< 4 h / 8 h			
	Discharge Current Wave	< 10%					
BY-PASS							
	Voltage Tolerance			10% (adjustable)			
	Frequency Tolerance			3Hz (adiustable)			
	Transfer Time			0 ms			
PROTECTI	ON						
	Overload Protection	hypass tran	sfer time is calculate	d by simulating a ten	merature related mo	del of a fuse	
	Short Circuit Protection	bypuss train	acts as the ideal cu	rrent source during t	he short circuit time		
	Other Protection	ne	ainst excessive (hea	t voltage current) in	tense battery discha	rae	
COMMUNE		ug		cy volcage/earrency in		ge	
COMMONE			Icola	tod according to ENG	20050		
	RS 252		Isola	ted according to ENG	50950		
			1501a		00950		
ENVIRONM							
				<u> </u>			
	Storage Temperature			-15 °C+55 °C			
	Proposed Temp. to extend battery life	20 - 25 °C					
	Humidity	< 95%					
	Audible Noise at 1 m	<50 dB <55 dB					
PHYSICAL	SPECIFICATIONS				1		
	Net Weight(with internal batteries)	60	80	81	170	185	
	Dimensions(cm) (WxDxH)	25,5x66,8x61 25,5x60,3x70 25,5x60,3x70 43x71x88				1x88	
STANDARI	DS						
	Safety	EN50091-1					
	EMC	EN50091-2					
	Performance		E	N62040-3, EN 50091	-3		
	Protection Class			IP 20			



Uninterruptible Power Systems

True On - Line "Double conversion" Technology I Phase in - I Phase out - from 5 kVA to 10 kVA 3 Phase in - I Phase out - 10 kVA



On-Line Double Conversion Technology

Real Digital Signal Processor (DSP) Controller

Modular parallel redundant operation up to 4 units

Increased Input Power Factor (>0,99)

Convertible display helps to use both for tower and rack applications

High Performance with the PWM Sine wave Topology

Cold Start Function

Intelligent Battery Management System extends the life time of batteries

Overload, Overheat & Short Circuit Protections

User Friendly Multi-Functional LED/LCD Display Panel

Energy Saving Mode (ECOMODE)

Smart Fan Speed Regulation with temperature controlled

RS232 Communication Port & Management Software Internal SNMP, Dry Contact, RS485 Card Options





DSP MULTIPOWER SPECIFICATIONS

	TYPE	DSPMP-1105	DSPMP-1106	DSPMP-1110	DSPMP-3110				
	Power (kVA)	5	6	10	10				
INPUT									
	Phase Configuration		1Ph + N + PE		3Ph + N + PE				
	Nominal Voltage		220V/230V		380V/400V				
	Minimum Voltage (at Half load)		160V		277V				
	Minimum Voltage (at full load)		312V						
	Maximum Voltage		485V						
	Frequency		2007	45 65 Hz	403 V				
	Privat Frankrik			45-65112					
OUTPUT	Fower Factor			0.99					
001201	Phase Capfiguration		41						
	Naminal Valtage		020\//220\//adjustable	20 + N + PE	280///400//				
	Nominal voltage	22.4		1	3800/4000				
	Move Form	23A	2/A	ra Sina Waya	45,5A				
			Fu	Te Sille Wave					
	Iotal Harmonic Distortion			00/					
				<3%					
	at 100% non-linear load		5011	<5%					
	Frequency		50HZ 01	60Hz (adjustable)					
	Frequency Tolerance(tree running)			±0,2 %					
	Frequency Regulation		±	:1HZ; ±3HZ	1				
	Static Voltage Regulation (0%-100% load)			<1%					
	Grest Factor			3					
	Transfer Time			Osec					
	Overload (on mains at 110% load)			2 min					
	Overload (on mains at 125% load)			5 sec					
	Overload (on mains at 150% load)		Tran	sfer to bypass					
	Total Efficiency	≥90%							
	Greenmode efficiency			≥97%					
BATTERY									
	Туре		Maintena	ance Free Dry Type					
	DC Voltage	240VDC (20 pcs 12V Batteries)							
	Recharging Time		4-6	Sh up to 90%					
	Cold Start			Present					
DISPLAY		Line Mede	Deels up Made Eas Made D	and Current Dettern Law De	there . Ded/Discourse at				
	Status on LED JLCD	Overload, UPS Fault, Interruption during transfer							
	Status on ELD +LOD	Unit Veltage Input Eraguaney, Orderst Veltage Orderst Sectore							
	Displayed parameters on LCD	Input voltage, Input Frequency, Output voltage, Output Frequency,							
	Self Diagnostics	Load /o, Dattery voitage, Internal temperature							
PROTECT	TION	C C C C C C C C C C C C C C C C C C C	wer on, i font i and octang						
THOTEO	Overload Protection	Bypass tr	ansfer time is calculated by si	mulating a temperature related	model of a fuse				
	Short Circuit Protection	Dypass transfer time is calculated by simulating a temperature related model of a tuSe							
	Other Protection	Acts as the ideal current source during the short circuit time							
COMMUN			Against excessive (neat,voi	age,current) intense battery di	scharge				
COMMON		Ctr.	ndord DC222 part and antian	al BS485 Internal SNMD Dry	Cantost Cardo				
ENVIDON	IMENT	318	indard h5252 port and option	ai H3485, Internai Sinivir, Dry	Contact Cards				
ENVIRON			0.1	2 40.10					
	Deragond Temp to extend bettery life	0 °C + 40 °C							
	Proposed temp. to extend battery me	20 - 25 °C							
	Audible Neice et 1 m	up to 90% (non-condensing)							
DUMOIO	Audible Noise at 1 m			<00 0B					
PHYSICA	L SPECIFICATIONS (tower position)								
	ivet weight (power module)	25	кg	26kg	28kg				
	Net Weight (with internal batteries)	55kg							
	Dimensions(mm) (HxWxD)-power module	440x88x680 440x132x680							
	Dimensions(mm) (HxWxD)- w/battery vers.	440x176x680							
STANDA	RDS								
	Safety	EN62040-1-1							
	EMC			EN62040-2	1				
	Performance			EN62040-3					
	Protection Class	IP 20							



Uninterruptible Power Systems

True On-Line IGBT Rectifier Controlled Double Conversion 3Ph in / 3Ph out 10 to 100kVA UPS Systems





Creativity Reward 2005

- IGBT Rectifier
- DSP basis numerical control
- Active Power Factor Correction (>0,99 input p.f.)
- Active Harmonic Correction (<4% input THDi)
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by Parallel Systems
- Smart Battery Charge System
- Synchronization Capability with external sources
- Static and Manual Bypass
- · Optional Galvanic isolation transformer and special voltage application options
- · Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs



PYRAMID DSP SERIES SPECIFICATIONS

MODEL	PDSP310	PDSP315	PDSP320	PDSP330	PDSP340	PDSP360	PDSP380	PDSP3100		
Output power (kva)	10	15	20	30	40	60	80	100		
Nominal Active Power (kW)	8	12	16	24	32	48	64	80		
Power factor	0.8									
INPUT										
Number of phases 3Ph+N+PE										
Nominal Voltage	Voltage 380V/400V/415V									
Voltage range (%100 load) (Ph-N)		187V-280V								
Voltage range (%64 load) (Ph-N)		120V-280V								
Voltage range (%42 load) (Ph-N)		80V-280V								
Nominal Frequency (Hz)				50	or 60					
Frequency range for online operation				±	10%					
Input Current THD				5	4%					
Input Power Factor				().99					
OUTPUT										
Number of phases				3Ph-	+N+PE					
Voltage				380V/4	00V/415V					
Static Voltage Regulation at %100 Linear Load (online&battery mode)				~	<1%					
Voltage THD at rated linear load				<	<3%					
Crest factor					3:1					
Frequency (Hz)				50	or 60					
Free Running Frequency (Hz)		50 or 60 ± 0.01%								
Overload	125% for 10 minutes 150% for 1 minute									
Efficiency	>92%									
STATIC BYPASS LINE										
Number of phases				3Ph	+N+PE					
Voltage Range for bypass operation				220V / 230V	(Ph-N) ± 1	0%				
Frequency Range for bypass operation (Hz)				47-53 (C	onfigurable)					
COMMUNICATION										
Interface			RS232	2 & RS422 C	ommunicatio	on Ports				
Dry Contact Signals		AC failu	re, Battery u	nder voltage	bypass ope	eration, outpu	ıt failure			
Others				EPO, Gene	rator interfac	e				
ENVIRONMENTAL CONDITIONS										
Storage Temperature Range (°C)		-25 to	o +55 (15 to	40 recomend	ded for longe	er battery life	time)			
Operating Temperature Range (°C)		0 to	40 (20 to 2	5 recomende	d for longer	battery life ti	me)			
Relative Humidity Range				0-95% (nor	-condensing	g)				
Maximum Altitude without derating (m)	1000									
Protection Level				I	P20					
Standards	EN 50091-1-1, EN 50091-2, EN 50091-3, EN 55022, EN 62040-1-1, EN 62040-2, EN 62040-3 (VFL-SS-111)									
Dimensions wxdxh (cm)		40 x 78	3 x 107		52 x 90) x 130	52x95x130	64x98x138		
Weight (kg)	102		110		240	242	265	320		
Product Certification					CE	1	1	1		
OPTIONS										
OPTIONS		Parallel k remote mor	it, SNMP inte	ernal slot car , isolation tra	d or external Insformer, ba	l adapter, spl attery cabine	it by-pass, t, Netservice			

PYRAMIDPLUS SERIES

Uninterruptible Power Systems

True On-Line Technology 3 Phase in - 3 Phase out / 10 to 300 kVA



80-300 kVA



10-60 kVA

True on-line double conversion technology State of the art IGBT & PWM technology Evolution and redundancy guaranteed by Parallel Systems Reliability of the battery ensured by Info-Charger Built-in maintenance and static by pass Galvanic isolation and/or modification for special voltages Comprehensive communication with computer & network systems and SNMP solutions Communication with building management systems Expandable and variable battery blocks THCDL and 12 pulse rectifier options Low installation and operating cost



PYRAMID PLUS SERIES SPECIFICATIONS

MODEL	PPS 310	PPS 315	PPS 320	PPS 330	PPS 340	PPS 360	PPS 380	PPS 3100	PPS 3120	PPS 3160	PPS 3200	PPS 3250	PPS 3300
Output Power KVA	10	15	20	30	40	60	80	100	120	160	200	250	300
Powerfactor					1	I	0.8 lagging						
INPUT													
Voltage*		380V / 400V / 415V 3 Phase											
Tolerance		±15%											
Frequency		50 / 60Hz											
Tolerance		±10%											
OUTPUT													
Voltage*						380V	/ 400V / 415V	3Phase					
Tolerance (static condition)							+ - 1%						
Tolerance (dynamic condition)							+ - 5%						
Harmonic Distortion rate							.00/						
on lineer load							< 376						
Harmonic Distortion rate							-59/						
on non-lineer load							<3%						
Crest factor							3						
Frequency							50 or 60 Hz						
Frequency Tolerance							±0.2%						
Overload													
100% - 125% load							10min.						
125% - 150% load					1		1min.						
Overall Efficiency							> = 90%						
BATTERY												c.	
						30pcs 12V B	atteries					32pcs 12	2V Batteries
COMMUNICATION													
Interface					RS232 ar	nd Dry Conta	ct, standard and	d isolated acc	ording EN60	950			
PHYSICAL						1	l.	,	P				
Weight without battery (kg)	225	255	270	285	400	475	655	815	940	965	1170	1465	1535
Dimensions(mm) WxDxH		490x6	50x1190		565x8	60x1400	720x820x1450) 1120x82	20x1650	1200x86	60x1730	1590x9)50x1900
ENVIRONMENT						1							
Audible Noise			<55dBA		1	<	odBA		63 to	66dBA		<70)dBA
Operating Temperature		1		1			0-40°C						
Relative Humidity (non condensing)							0-95%						
Standards	2.5			S	EN 50091-	1 (safety), El	<mark>5009</mark> 1-2 (EMC	C), IEC 62040	3 (class VF	I), IP20			
OPTIONS													
			Ba Addi	ttery Cabinet tional Battery	t, Parallel Kit, y Charger, Ba	SNMP Kit, S attery Protect	eparated Mains ion, Temperatur	s Input, Remo e Compensa	te Control Pa ion, Teleserv	anel, Filters, vice, Modem,	12 pulse rect RS485, Eco	tifier, ⊢Mode	

PYRAMID - EX SERIES

Uninterruptible Power Systems

True On -Line Technology 3 Phase in - 3 Phase out / 400 Kva to 1000 kva



True on-line double conversion technology with high efficiency

State of the art IGBT & PWM Technology

Built - in maintenance & automatic by-pass

Evolution and redundancy guaranteed by Parallel Systems (up to 4 units)

User Friendly LCD panel helps to feature the ups easily.

Full front access to whole internal components reduces the repair & maintenance time.

Expandable and variable battery blocks

Communication Interface and Monitoring Software

12 pulse rectifier option



PYRAMID-EX SERIES TECHNICAL SPECIFICATIONS

MODEL	PDS 400	PDS 500	PDS 600	PDS 800	PDS 10						
output KVA	400	500	600	800	1000						
power factor			0.8 lagging								
INPUT											
Voltage		380V / 400V / 415V 3Phase+Neutral+PE									
Tolerance		± 15 %									
Frequency		50 / 60 Hz									
Tolerance			± 10 %								
DC Ripple Voltage		± 1 %									
DC Ripple Current		max	2% of battery capacity defined	in Amps							
OUTPUT											
Voltage		380	V / 400V / 415V 3Phase+Neutr	al+PE							
T. January											
Iolerance static condition			±1%								
step load (0%-100%-0%)		± 8 %	recovering within tolerance into	2 cycles							
step load (0%-50%-0%)		± 3 %	recovering within tolerance into	2 cycles							
Total Harmonic Distortion			< 2 % (@ 100% linear load)								
Crest Factor			3:1 with 80% load								
Frequency			50 or 60 Hz.								
Frequency tolerance (free run	nning)		± 0.01 %								
Frequency tolerance (synchronized with utility)		± 5 %									
Overload											
125% load		10 min									
150% load		1 min									
Overall Efficiency		%92.50									
Output Neutral Rating			%200								
BATTERY											
Battery Quantity			32 pcs 12V Blocks								
Nominal DC Voltage			384VDC								
Float Voltage at 20C		436VDC									
Automatic and Manual Batter	y Test		Standard								
BYPASS											
Input Configuration			Common with Rectifier or Sepa	rate							
Transfer limits		± 10 % of Nominal Adjusted Output Voltage									
Overload Capability		Continous at 110%									
Short Circuit Capability		5min @ 20	0% <mark>and h</mark> alf cycle @1000% (no	n repetitive)							
PHYSICAL											
Weight without battery (kg)	2200	2900	3100	3800	4000						
Dimensions (mm) WxDxH	2600*800*1800	3400*1000*1800	3400 [*] 1400*1800	4200*1400	1800						
Audible Noise	<66dBA		<68dBA		<70dE						
Operating Temperature			0-40°C								
Relative Humidity (non conde	ensing)	0-95%									
Chanadanda		EN 5000	1-1 (safety), EN 50091-2 (EMC	:) IP20							

12 pulse Rectifier, Parallel Redundancy, SNMP Interface, Remote Control Panel, Communication Interface

INFOCHARGER

BATTERY CHARGER / DC POWER SUPPLY

Microprocessor Controller Operation according to constant voltage and current principle Adjustable Boost and Nominal Charge Voltage Adjustable Output Current High Voltage Protection Over Current Protection Short Circuit Protection Over Temperature Protection Input Filter Alphanumerical LCD Display and Control Panel Low DC Voltage Protection (LVD)- Optional Dry Contact Alarms- Optional Parallel Connection Availability- Optional Small Footprints, Compact Size



INFOCHARGER SPECIFICATIONS

TYPE		ICH122450	ICH4850	ICH11025	ICH1224100	ICH1224200	ICH48100	ICH11050			
Power		50Amp	50Amp	25Amp	100Amp	200Amp	100Amp	50Amp			
DC Voltage		24VDC	48VDC	110VDC	24VDC	24VDC	48VDC	110VDC			
INPUT											
Input Phase			1Phase			1phase / 3	3Phase				
Nominal Vol	tage Range		80-280VAC			176-280	OVAC				
Frequency I	Range		45-65Hz								
Power Factor	or	>0,98 >0,8									
OUTPUT											
Nominal Vo	tage	24VDC	48VDC	110VDC	24VDC	24VDC	48VDC	110VDC			
Nominal cur	rent	50Amp	50Amp	25Amp	100Amp	200Amp	100Amp	50Amp			
Output Curr	ent Adjustment value	0 to 50A	0 to 50A	0 to 25A	0 to 100A	0 to 200A	0 to 100A	0 to 50A			
Max Output	Current		-		110% of Inominal	1					
Boost Charg	ge Voltage			100% - 120%	of the nominal o	utput voltage					
Output Fluc	tuation			<0,5% r	ms AC Output V	oltage					
Dynamic Re	sponse			less tha	n 2% of output v	oltage					
Output prote	ection		electronic s	hort circuit / ov	ver voltage / reve	erse voltage prote	ections				
DISPLAY											
LCD Display	/ Panel	Voltage, Current, Temperature, Charge and Status Informations									
LED Display	/ Panel	Overload, Line, Battery, Load, LVD, Fault Indications									
GENERAL											
Cooling				Ford	ed (FAN Coolin	ig)					
Isolation Vo	tage	2000VAC between output and chassis									
Efficiency		>90 %									
Operating T	emperature	0 – 50 ^g C									
Relative Hu	midity	0% - 90%									
Input/Outpu	t Connections	Terminals									
Fuses		input, load and 3pcs double pole thermic magnetic automat									
PHYSICAL SPECIFICA	TIONS										
Net Weight	(kg)		17			37					
Dimensions	(mm) (WxDxH)		270x400x400			210x55	5x625				
STANDARDS											
Safety					EN50091-1						
EMC		EN50091-2									
Performanc	e	EN62040-3, EN 50091-3									
Protection C	lass	IP 20									
OPTIONS											
Dry Contact	Card			6pcs contact a	larms / normally	(closed/open)					
LVD				Low Voltag	e Disconnect (C	Contactor)					
Parallel Cor	inection		Not Available			up to 7 u	units				



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PS 8000 DISTRIBUTION FRAME (I80Amp)

Inform PS8000, 180A DC Supply has been designed for GSM stations, telecom applications and other communication applications. PS8000 system is used in DC energy required application areas together with charging facility. 180A DC energy distribution system creates the -48VDC energy for the critical loads.

of parallel redundant operating and forced current sharing RD2000 series rectifiers, AC distribution, DC distribution and Battery bank. PS8000 Power System can be supplied from both three or single phase mains.

Additionally depending on request, PS8000 system is available to be connected in parallel systems.

RS232 communication port, RS485 port for the communication with other DC frames, monitoring through user friendly intelligent LCD display, availability to locate 6 rectifiers in single frame and to connect 6 frames in parallel ; are other features of PS8000.

PS8000 AC/DC DISTRIBUTION FRAME SPECIFICATIONS

GENERAL	
Input Voltage	380V /400V / 415V
Phase Configuration	3Ph + N + PE or 1Ph + N + PE
Rectifiers	Modular and hot swappable RD2000 rectifiers (30Ampere each)
Output	The output distribution fuses can be configured depending on the customer request
Display Options	System Position, Alarms can be monitored and adjustments can be done through LCD display on the Control Unit(CU).
Controller (CU)	All the adjustments and the calibrations are done through CU.
Alarm Contact Outputs	There are total 3 dry contact signals present on the frame for remote monitoring
PROTECTIONS	
Input	One fuse for each rectifier module.
Output	For DC distribution, up to 350A, total 24pcs fuses can be installed on the frame
Battery	Fuse according to the frame type for each battery bank
Battery low voltage Disconnect	Battery low voltage contactor for the protection of batteries from deep discharge
High Voltago	High Voltage Protection Module protects the unit from lightning and sudden
riigii voltage	voltage fluctuations
ELECTRICAL PERFORMANCE	
Efficiency	> 91%
Power factor	99%
Regulation	< 1V
BATTERY MANAGEMENT	
Battery	On 180A frame, there are two group battery banks. Additionally external batteries can be connected to the frame. 8 x 19° 155Ah batteries can be installed to standard PS8000 frame.
Charge	Auto Charge Mode ; 49V Mode, 53.5V Mode, 57V Mode, 63 V Mode especially for wet batteries If any adjustment is not made on the CU menu, then the system shall start to operate at auto charge mode when it is switched on.
Low Voltage Disconnect	Low voltage disconnect contactor, disconnects the circuit at the adjusted value between 42VDC to 46VDC from the CU(Control Unit) as s/w or h/w. Low Voltage Disconnect Contactor protects the batteries from deep discharge.
Heat Compensation	Heat Compensation is applied according to the heating profiles of batteries connected either internally or externally.
ENVIRONMENTAL SPECIFICATIONS	
Dimensions (DxHxW) (mm)	395x490x525
Weight(kg/cabinet	121kg -frame- (excluding the rectifiers and batteries)
Operating altitude (m)	< 2500
Relative Humidity	5 % - 95 %
Audible Noise	< 50dB
Cooling	Natural and Forced



