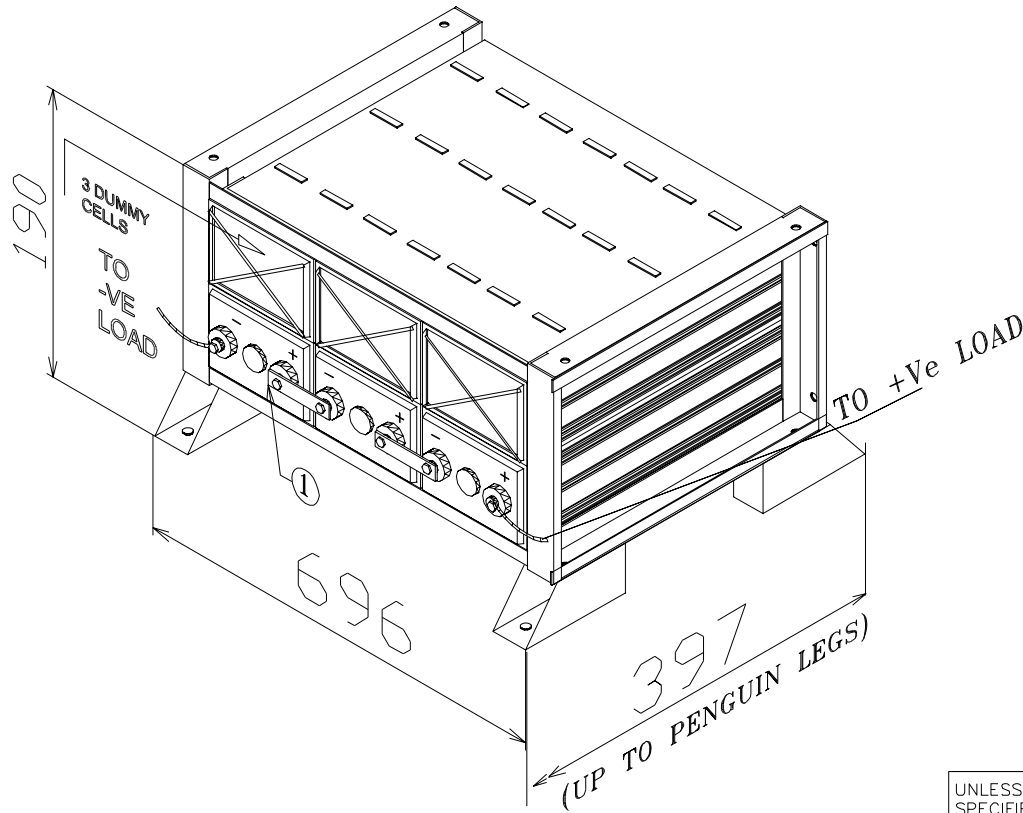



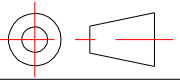
NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS  
 2. FOR EPC CONTRACTS ONLY

Drawing approval subject to valid vendor registration



- NOTES:
- a. Batteries are located inside the trays of MS HRCA sheet painted with RAL7040(Window grey)colour.Trays are mounted on Penguin legs.
  - b. All cell connectors are made of lead coated copper busbar.
  - c. No seperate foundation is required for installation of battery bank.
  - d. No special ventilation is required.Normal ventilation is sufficient.
  - e. All the connectors are designed for 57 A current.
  - f. Floor area required for battery bank is 696X397 sq mm.
  - g. 0.5 to 1 mts aisle space on all sides should be provided to permit initial installation service and surveillance.
  - h. For any correspondence quote DRG.NO:
- \*\*\* FLOOR LOAD :119Kg/sq.m.  
 \*\*\* All the Connectors are designed for 1Hrs discharge rate.  
 \*\*\* Manufacturer's Model No : IP6005.

**Chief Engineer/Projects  
 APTRANSCO/VS/Vijayawada.**

UNLESS OTHERWISE SPECIFIED TOLERANCES ON		TITLE:		 <b>AMARA RAJA</b> Gotta be a better way Amara Raja Energy & Mobility Limited (Formerly Known as Amara Raja Batteries Limited) Registered office&works Karakambadi-617520,TPT,(A.P) INDIA. Ph.(0877)2265000.FAX:(0877)2265600.	
LINEAR	ANGULAR	6V-100Ah SYSTEM			
X ±10.0	AS SPECIFIED	INSTALLATION&CONNECTION DIAGRAM		DRG. NO.	
.X ±	IN THE			23 501 501 A	
.XX ±	DRAWING			SHEET 1 OF: 1	
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN MILLIMETRES		DRN.	SIGN.	DATE	SCALE: N.T.S
WEIGHT TOLERANCE: ± 5%		CHD.	NSPR	07.11.23	
		RECHD.	ASHOK	07.11.23	
		APPD.	KMSN	07.11.23	
SHEET SIZE A3 (297 x 420T)		PROPRIETARY MATERIAL OF M/s AMARARAJA GROUP OF COMPANIES,TIRUPATI ALL RIGHTS ARE RESERVED.NO COPYING PERMITTED UNAUTHORISED USE PROHIBITED.			

SYSTEM DETAILS	
Type of cell	2V-100Ah
Total no.of cells	03
Volts per cell	2V
No.of modules	01
Total system weight (Approx)	33Kgs

ITEM NO	DESCRIPTION	DIMENSIONS	QTY/CON	QTY/SYS
1	Inter cell connector(H)	110X15X2	1	02

**CONNECTOR DETAILS**



## Guaranteed Technical Particulars

DOCREF: IAE/ GTP - PS/ 2023-2024; Rev : 00

### Battery Particulars

- Battery Type : Maintenance Free Valve Regulated Lead Acid (MF-VRLA)
- Battery Rating : 6 V - 100 AH to 1.75 ECV @ C10 at 27°C
- Manufacturers Cell Designation : IP6005
- No. of cells : 3 No.s
- Cell dimensions : (198.4 x 321 x 46.1) mm Approx.
- Single cell weight : 6.61 kg. Approx
- Battery bank dimensions : (696 x 394 x 190) mm Approx.
- Battery bank weight : 33 Kg. Approx.

### Charge Regime

- Float Charging Voltage : Batteries shall be charged in constant potential mode with Current Limit.
- Boost charging voltage : 2.23 - 2.25 Volts per Cell @ 27°C
- Current Limit : 2.30 - 2.32 Volts per Cell @ 27°C
- Recommended Voltage Compensation : 10 Amps minimum to 20 Amps maximum.
- For every 1°C rise in temperature reduce the float voltage by 0.003VPC & Vice versa, ensure the extension of temperature sensor upto battery.

### Product Details

- AH efficiency : Above 95%
- WH efficiency : Above 85%
- Self Discharge/Week @ 27°C : < 1% of rated capacity
- Max. allowable Ambient Temp. at which cell can safely operate : 60°C continuous and 70°C short time.
- Recommended Max Period of Storage : 6 months from the date of dispatch before first use and battery should be stored in a covered area at 27°C.
- Material of Container : Polypropylene co-polymer.
- Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM)
- Type of +ve & -ve plates : Flat pasted
- Material of tray & color : Mild steel coated with acid resistant powder coating.
- Method of connection between cells : Bolted
- Voltage ripple allowable : <2% of the RMS. Value
- Type of connectors : Lead coated Heavy duty copper strips
- Cycle Life of battery at 27°C : 4000 cycles at 20% Depth of Discharge(DOD) (or) 2000 cycles at 50% DOD (or) 1200 cycles at 80% DOD
- Time required for Boost charge at 2.30 VPC @ 20%CL at 27°C : 8 Hrs from 0-90% State of Charge (SOC)(or) 16 Hrs from 0-100% State of Charge
- Manufacturing Serial Number : Providing stickers

### Applicable Standards

- Batteries generally conforms to
  - (i) IS15549:2005
  - (ii) IEEE1188 & 1189
  - (iii) BS-6290, PART-IV.
  - (iv) IEC 60896-21&22:2004, PART-II.

**Chief Engineer/Projects**  
**APTRANSCO/VIS/Vijayawada.**

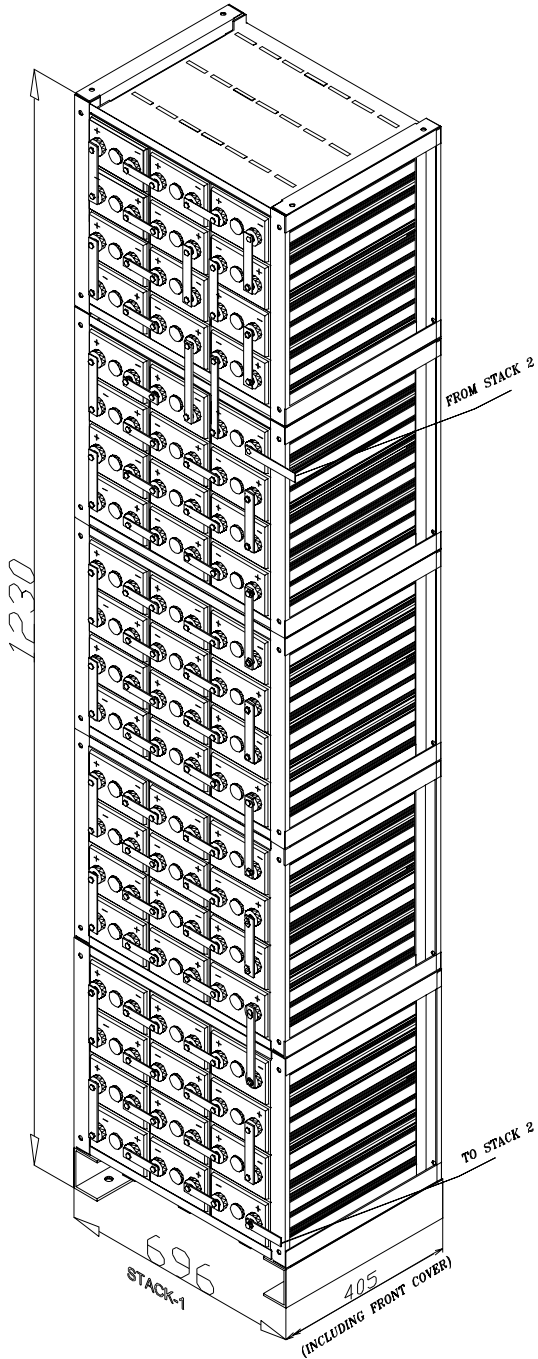
8367695/2024/EEMRT-ENE51

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS  
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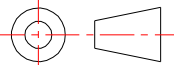
NOTES:

- a. Batteries are located inside the trays of MS HRCA sheet painted with RAL7040(Window grey)colour.Trays are mounted on 50mm C-channels.
- b. All cell connectors are made of lead coated copper busbar.
- c. No separate foundation is required for installation of battery bank.
- d. No special ventilation isrequired.Normal ventilation is sufficient.
- e. All the connectors are designed for 57 A current.
- f. Floor area required for battery bank is 1477X405 sq mm
- g. 0.5 to 1 mts aisle space on all sides should be provided to permit initial installation service and surveillance.
- h. For any correspondence quote DRG.NO:  
\*\*\* FLOOR LOAD : 1423 Kg/sq.m.  
\*\*\* All the Connectors are designed for 1Hr discharge rate.  
\*\*\* Manufacturer's Model No : IP6005.

Drawing approval subject to valid vendor registration

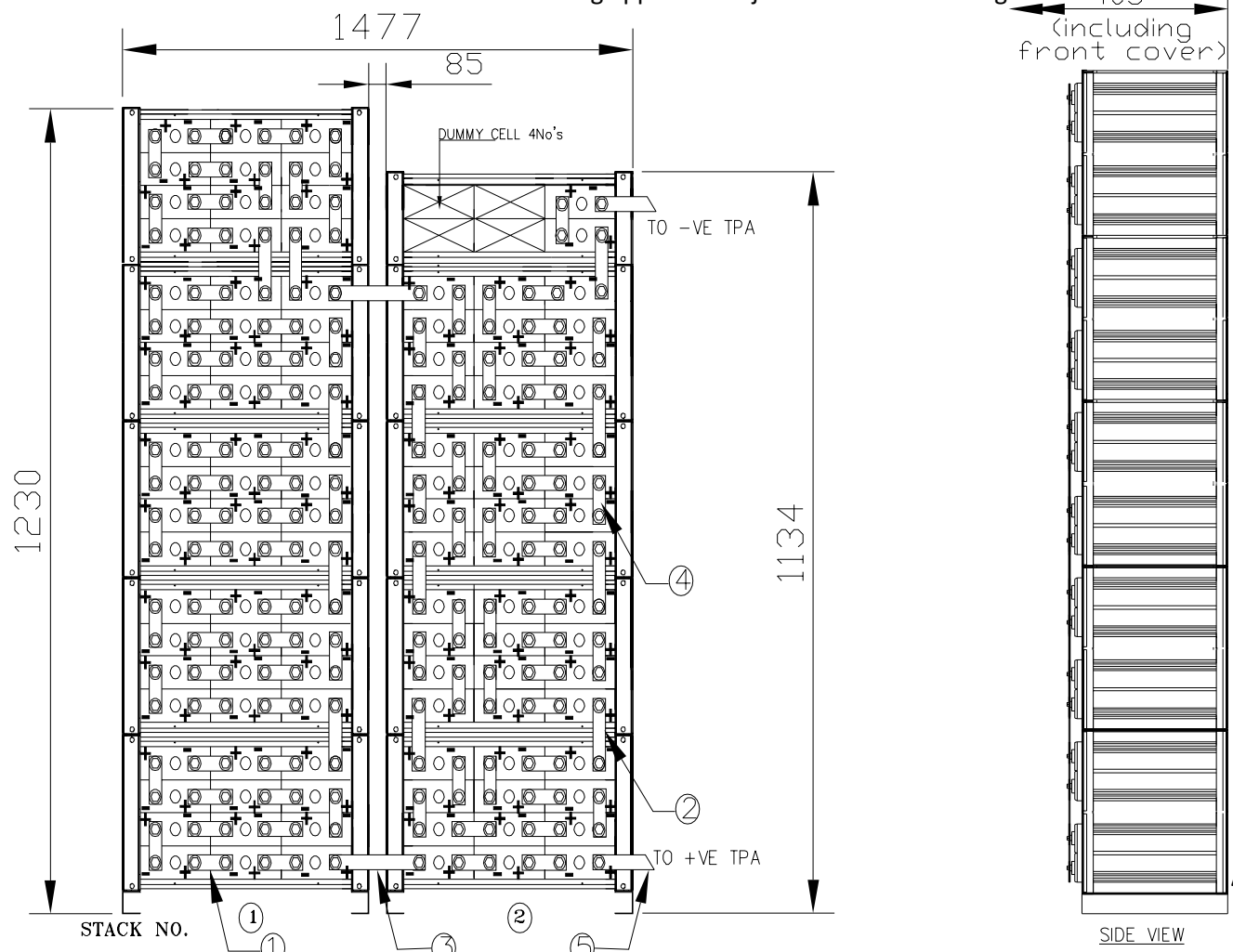


**Chief Engineer/Projects  
APTRANSCO/VS/Vijayawada.**

UNLESS OTHERWISE SPECIFIED TOLERANCES ON		TITLE:			 <p><b>AMARA RAJA</b> Gotta be a better way Amara Raja Energy &amp; Mobility Limited (Formerly Known as Amara Raja Batteries Limited) Registered office&amp;works Karakambadi-517520,TPT,(A.P) INDIA. Ph.(0877)2265000.FAX:(0877)2285600.</p>
LINEAR	ANGULAR	220V-100Ah SYSTEM INSTALLATION DIAGRAM			
X ±10.0	AS SPECIFIED	UNLESS OTHERWISE SPECIFIED DIMENSIONS IN MILLIMETRES			DRG. NO.  23 501 499 A  SHEET 1 OF: 2
.X ±	IN THE	SIGN. DATE SCALE: N.T.S			
.XX ±	DRAWING	DRN. SPO 07.11.23	CHD. NSPR 07.11.23	RECHD. ASHOK 07.11.23	
		APPD. KMSN 07.11.23			
SHEET SIZE A3 (297 x 420)		PROPRIETARY MATERIAL OF M/s AMARARAJA GROUP OF COMPANIES,TIRUPATI ALL RIGHTS ARE RESERVED.NO COPYING PERMITTED UNAUTHORISED USE PROHIBITED.			

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**NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS  
2. FOR EPC CONTRACTS ONLY**

ITEM NO	DESCRIPTION	DIMENSIONS	QTY/CON	QTY/SYS
5	End cell connector	135X20X2	1	02
4	Inter cell connector(V)	73X15X2	1	41
3	Inter stack connector	280X15X2	1	02
2	Inter module connector	118X15X2	1	12
1	Inter cell connector(H)	110X15X2	1	54

**CONNECTOR DETAILS**

SYSTEM DETAILS	
Type of cell	2V-100Ah
Total no.of cells	110
Volts per cell	2V
No.of modules	10
Total system weight (Approx)	851Kgs

UNLESS OTHERWISE SPECIFIED TOLERANCES ON		TITLE:		<b>AMARA RAJA</b> Gotta be a better way Amara Raja Energy & Mobility Limited (Formerly Known as Amara Raja Batteries Limited) Registered office&works Karakambadi-517520,TPT,(A.P) INDIA. Ph.(0877)2265000,FAX:(0877)2265600.	
LINEAR	ANGULAR	220V-100Ah SYSTEM CONNECTION DIAGRAM			
X ±10.0	AS SPECIFIED IN THE DRAWING	DRN.	SIGN.	DATE	SCALE: N.T.S
.X ±		CHD.	NSPR	07.11.23	
.XX ±		RECHD.	ASHOK	07.11.23	
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN MILLIMETRES		APPD.	KMSN	07.11.23	
WEIGHT TOLERANCE : ± 5%		SHEET SIZE		PROPRIETARY MATERIAL OF M/s AMARARAJA GROUP OF COMPANIES,TIRUPATI ALL RIGHTS ARE RESERVED.NO COPYING PERMITTED UNAUTHORISED USE PROHIBITED.	
		A3 (297 x 420)			



## Guaranteed Technical Particulars

DOCREF: IAE/ GTP - PS/ 2023-2024; Rev : 00

### Battery Particulars

- Battery Type : Maintenance Free Valve Regulated Lead Acid (MF-VRLA)
- Battery Rating : 220 V - 100 AH to 1.75 ECV @ C10 at 27°C
- Manufacturers Cell Designation : IP6005
- No. of cells : 110 No.s
- Cell dimensions : (198.4 x 321 x 46.1) mm Approx.
- Single cell weight : 6.61 kg. Approx
- Battery bank dimensions : (1477 x 405 x 1230) mm Approx.
- Battery bank weight : 851 Kg. Approx.

### Charge Regime

- Float Charging Voltage : Batteries shall be charged in constant potential mode with Current Limit.
- Boost charging voltage : 2.23 - 2.25 Volts per Cell @ 27°C
- Current Limit : 2.30 - 2.32 Volts per Cell @ 27°C
- Recommended Voltage Compensation : 10 Amps minimum to 20 Amps maximum.
- For every 1°C rise in temperature reduce the float voltage by 0.003VPC & Vice versa, ensure the extension of temperature sensor upto battery.

### Product Details

- AH efficiency : Above 95%
- WH efficiency : Above 85%
- Self Discharge/Week @ 27°C : < 1% of rated capacity
- Max. allowable Ambient Temp. at which cell can safely operate : 60°C continuous and 70°C short time.
- Recommended Max Period of Storage : 6 months from the date of dispatch before first use and battery should be stored in a covered area at 27°C.
- Material of Container : Polypropylene co-polymer.
- Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM)
- Type of +ve & -ve plates : Flat pasted
- Material of tray & color : Mild steel coated with acid resistant powder coating.
- Method of connection between cells : Bolted
- Voltage ripple allowable : <2% of the RMS. Value
- Type of connectors : Lead coated Heavy duty copper strips
- Cycle Life of battery at 27°C : 4000 cycles at 20% Depth of Discharge(DOD) (or) 2000 cycles at 50% DOD (or) 1200 cycles at 80% DOD
- Time required for Boost charge at 2.30 VPC @ 20%CL at 27°C : 8 Hrs from 0-90% State of Charge (SOC)(or) 16 Hrs from 0-100% State of Charge
- Manufacturing Serial Number : Providing stickers

### Applicable Standards

- Batteries generally conforms to
  - (i) IS15549:2005
  - (ii) IEEE1188 & 1189
  - (iii) BS-6290, PART-IV.
  - (iv) IEC 60896-21&22:2004, PART-II.

**Chief Engineer/Projects**  
**APTRANSCO/VS/Vijayawada.**

Authorized signature  
COM-SFS-00

APTRANSCO -Applicable standard spares for the VRLA battery bank for 100AH ratings.

<b>VRLA Battery spares for 220V/100Ah battery bank</b>		
SL No	Description	QTY
1	Inter cell Connector (H)-110x15x2	11
2	Inter Module Connector -118x15x2	3
3	Inter Stack Connector -280x15x2	1
4	Inter cell Connector (V)-73x15x2	9
5	End cell Connector-135x20x2	1
6	6V/100Ah with accessories (2V -03 No's)	1
7	Multi meter -meco 603	1
8	Torque wrench with 10mm socket	1

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