

DATA SHEET

grid | Xtreme VR

GREEN series

Application | Telecommunication

Cost-optimized pure lead technology

The HOPPECKE grid | Xtreme VR green series was developed with a high cost-benefit factor in mind to make the advantages of pure lead technology available to cost-conscious customers. The superior technical characteristics in both top and front terminal versions make them the preferred solution for telecom application.

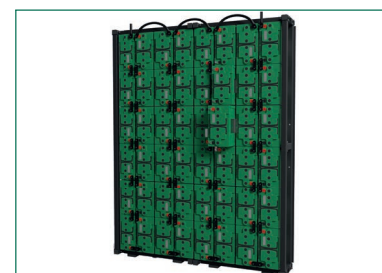
Unique dual-pole design - less service efforts

Dedicated pole contact points with touch protection allows for a precise impedance measurement making it quick and easy during installation and regular maintenance work.



grid | XtremeStack – optimal use of space with a minimal footprint

The innovative stacking solution from HOPPECKE. Tailored for grid | Xtreme VR batteries in the top terminal variant to achieve maximum efficient use of space and energy density (kWh/m²) - with comparatively less installation effort and lower costs. grid | XtremeStack is both horizontally and vertically expandable and adapts flexibly to your needs. Suitable for seismic loads up to UBC Zone 1.



Patented. innovative safeguard-tec - lower operational costs

The innovative safeguard-tec for the top terminal types (optional) ensures dimensional stability throughout battery lifetime and at elevated ambient temperature. This allows installation in cabinets or on racks with limited demand for a continuous cost-intensive air-conditioning.



Proven ESS technology - reduced life cycle costs (TCO)

The result of Enhanced Stability Standard (ESS) technology is a proprietary improved resilience against thermal runaway, better charge acceptance and more even voltage behavior of the battery. This leads to a longer service life and reduced service costs: in summary optimized life cycle costs.





Construction

- High Performance Pure Lead grid electrodes for very good corrosion resistance also under **elevated operating temperature**
- Active mass is designed for **high discharge performance** with good cyclability
- High-quality and low resistance microporous glass fibre separators combined with **ESS technology** ensures optimum charge carrier exchange and improves a **long-term stability**
- Fully isolated HOPPECKE connector system**
- Innovative plastic-overmolded dual-pole design with an **access for impedance measurements**
- 100% tested self-regulating pressure relief valve per cell to prevent interaction between cells of a block with backfire inhibiting for increased **operational safety**
- UL94 V-0** rated flame retardant ABS-PC material (halogen-free) - high heat, shock and vibration resistant
- 15 years** design life and optimized aging behavior at high temperatures



Installation & Operation

- Suitable for standby parallel operation as well as partial cyclic applications
- Vertical as well as horizontal installation** on racks, in battery cabinets or in the grid | XtremeStack due to the robust folding handles integrated in the lid for easy assembly
- FT: real front terminals** for an ease of installation and maintenance - no additional connectors needed
- TT: safeguard-tec** optional available - **improves the overall performance** significantly
- Recommended charge float voltage: 2.285 Vpc @ 68°F (20°C) / 2.270 Vpc @ 77°F (25°C)
- Operating temperature range extremely wide from **-31°F to +122°F (-35°C to +50°C)**
- Storage time** extended up to **2 years** for maximum project deployment flexibility
- Reduced maintenance: no refilling of distilled water is required



Standards

- Designed to be compliant with international standard **IEC 60896-21/22**
- Usage in applications where longest life (15 years design life) and highest reliability are required. Therefore, classified as "Very Long Life" according to Eurobat Guide 20 15
- UL recognized** component
- UL94 V-0 rated flame retardant ABS-PC material (halogen-free)
- Classified as non-spillable battery and approved as non-hazardous cargo for land, sea and air transportation in accordance with the requirements of **ADR / RID, IMDG and IATA**
- Exclusively manufactured in HOPPECKE certified production facilities in accordance with **ISO 9001, ISO 14001, ISO 50001 and ISO 45001**



Type overview grid | Xtreme VR

Capacity, dimensions and weights

MODEL	VOLTAGE [V]	AMPERE HOUR RATINGS @ 77°F (25°C) OPERATING TIME (IN HOURS) TO 1.75 VPC										DIMENSIONS [inches]			WEIGHT	
		1	2	3	4	5	6	7	8	10	LENGTH	WIDTH	HEIGHT	LBS	KG	
grid Xtreme VR 122700	12	64.4	72.1	76.1	77.8	79.7	81.2	82.4	83.4	85.2	10.00	6.85	9.17	55.6	25.2	
grid Xtreme VR 123600	12	85.8	96.2	101.4	103.8	106.3	108.2	109.8	111.2	113.6	12.60	6.85	9.17	73.6	33.4	
grid Xtreme VR 124400	12	116.5	134.2	143.3	147.8	152.2	155.6	158.4	160.6	164.5	14.13	6.85	11.14	100.8	45.7	
grid Xtreme VR 125100	12	135.9	155.4	164.7	169.2	173.5	176.8	179.4	181.5	184.7	19.61	6.85	9.17	111.1	50.4	
grid Xtreme VR 12-1000 FT	12	78.7	90.7	95.0	98.1	100.7	102.4	103.8	104.8	106.2	22.17	4.92	7.87	73.9	33.5	
grid Xtreme VR 12-1500 FT	12	120.3	138.5	145.2	149.8	153.7	156.5	158.5	160.0	162.2	22.17	4.33	12.09	108.5	49.2	
grid Xtreme VR 12-1800 FT	12	143.2	164.9	172.8	178.4	183.0	186.3	188.7	190.5	193.1	22.17	4.92	12.09	126.1	57.2	
grid Xtreme VR 12-2000 FT	12	153.2	176.4	184.9	190.8	195.8	199.3	201.9	203.9	206.7	22.17	4.92	12.68	132.3	60.0	

MODEL	TERMINAL	BATTERY CAPACITY		MAXIMUM DISCHARGE CURRENT [A]	SHORT CIRCUIT CURRENT (IEC 60896-21) [A]	TERMINAL TYPE	TERMINAL TORQUE	FIG.
		C ₈ TO 1.75 VPC @ 77°F (25°C)	C ₁₀ TO 1.80 VPC @ 68°F (20°C)					
grid Xtreme VR 122700	TOP	83	81	1100	1410	Insert (M8)	133 in.-lbs (15 Nm)	A
grid Xtreme VR 123600	TOP	111	108	1100	1880	Insert (M8)	133 in.-lbs (15 Nm)	A
grid Xtreme VR 124400	TOP	161	155	1100	2710	Insert (M8)	133 in.-lbs (15 Nm)	A
grid Xtreme VR 125100	TOP	182	175	1100	3410	Insert (M8)	133 in.-lbs (15 Nm)	A
grid Xtreme VR 12-1000 FT	FRONT	105	100	1000	1888	Insert (M8)	133 in.-lbs (15 Nm)	B
grid Xtreme VR 12-1500 FT	FRONT	160	153	1000	2051	Insert (M8)	133 in.-lbs (15 Nm)	B
grid Xtreme VR 12-1800 FT	FRONT	191	182	1000	2308	Insert (M8)	133 in.-lbs (15 Nm)	B
grid Xtreme VR 12-2000 FT	FRONT	204	195	1000	2490	Insert (M8)	133 in.-lbs (15 Nm)	B

*) Top terminal batteries: +0.12 inch in length and +0.2 inch in width using optional safeguard-tec



grid | Xtreme VR 122700

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)								
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)								
	1	2	3	4	5	6	7	8	10
1.75	64.4	36.1	25.4	19.5	15.9	13.5	11.8	10.4	8.5
1.80	62.7	35.4	24.9	19.1	15.7	13.3	11.6	10.3	8.4
1.85	59.8	33.9	23.9	18.4	15.1	12.9	11.2	10.0	8.2
1.90	54.4	31.1	22.1	17.1	14.0	12.0	10.4	9.3	7.6

grid | Xtreme VR 123600

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)								
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)								
	1	2	3	4	5	6	7	8	10
1.75	85.8	48.1	33.8	25.9	21.3	18.0	15.7	13.9	11.4
1.80	83.7	47.1	33.2	25.5	20.9	17.8	15.5	13.7	11.2
1.85	79.8	45.1	31.9	24.6	20.2	17.2	15.0	13.3	10.9
1.90	72.6	41.5	29.5	22.7	18.7	15.9	13.9	12.4	10.1

grid | Xtreme VR 124400

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)								
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)								
	1	2	3	4	5	6	7	8	10
1.75	116.5	67.1	47.8	37.0	30.4	25.9	22.6	20.1	16.4
1.80	113.3	65.7	46.7	36.2	29.8	25.4	22.2	19.7	16.1
1.85	107.5	62.9	44.7	34.6	28.6	24.3	21.3	18.9	15.5
1.90	98.4	58.0	41.1	31.9	26.3	22.5	19.6	17.4	14.3

grid | Xtreme VR 125100

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)								
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)								
	1	2	3	4	5	6	7	8	10
1.75	135.9	77.7	54.9	42.3	34.7	29.5	25.6	22.7	18.5
1.80	132.3	76.0	53.8	41.5	34.1	29.0	25.2	22.3	18.2
1.85	125.2	72.3	51.3	39.8	32.8	27.9	24.3	21.6	17.6
1.90	113.6	65.9	47.1	36.6	30.2	25.9	22.6	20.0	16.4



grid | Xtreme VR 12-1000 FT

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)									
	1	2	3	4	5	6	7	8	10	
1.75	78.7	45.3	31.7	24.5	20.1	17.1	14.8	13.1	10.6	
1.80	75.4	43.9	30.9	24.0	19.7	16.7	14.5	12.8	10.4	
1.85	69.7	41.4	29.3	22.8	18.8	16.0	13.9	12.3	10.0	
1.90	61.0	36.7	26.7	20.8	17.2	14.6	12.7	11.3	9.2	

grid | Xtreme VR 12-1500 FT

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)									
	1	2	3	4	5	6	7	8	10	
1.75	120.3	69.2	48.4	37.5	30.7	26.1	22.6	20.0	16.2	
1.80	115.2	67.0	47.2	36.6	30.1	25.5	22.2	19.6	15.9	
1.85	107.7	64.0	45.3	35.3	29.0	24.7	21.5	19.0	15.4	
1.90	94.3	56.7	41.2	32.1	26.5	22.6	19.7	17.4	14.2	

grid | Xtreme VR 12-1800 FT

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)									
	1	2	3	4	5	6	7	8	10	
1.75	143.2	82.4	57.6	44.6	36.6	31.0	27.0	23.8	19.3	
1.80	137.2	79.8	56.2	43.5	35.8	30.4	26.4	23.3	18.9	
1.85	126.7	75.2	53.3	41.5	34.2	29.0	25.2	22.3	18.2	
1.90	110.9	66.7	48.5	37.8	31.2	26.6	23.1	20.5	16.6	

grid | Xtreme VR 12-2000 FT

END POINT VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ *77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN HOURS)									
	1	2	3	4	5	6	7	8	10	
1.75	153.2	88.2	61.6	47.7	39.2	33.2	28.8	25.5	20.7	
1.80	146.8	85.4	60.1	46.6	38.3	32.5	28.2	24.9	20.3	
1.85	135.6	80.5	57.1	44.4	36.6	31.1	27.0	23.9	19.4	
1.90	118.7	71.4	51.9	40.5	33.4	28.4	24.7	21.9	17.8	



Fig. A

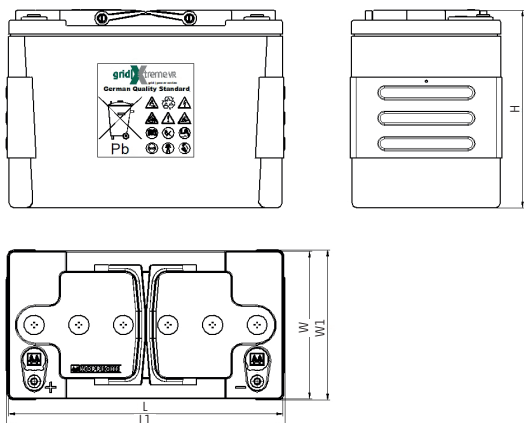
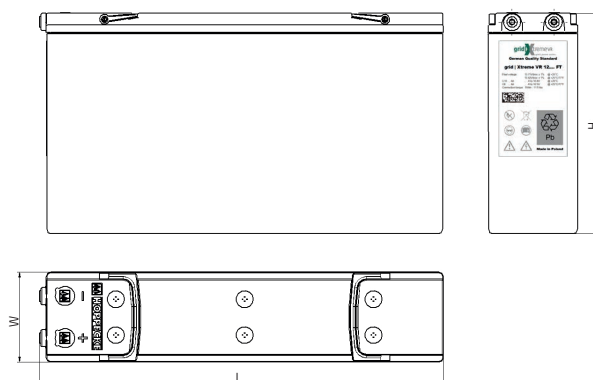


Fig. B



Tightening torque of terminal screw: 15 Nm - 133 lbf in

grid | Xtreme VR is versatile and may be used in other DC or AC industrial applications.

All of our cells and batteries should be installed, commissioned and operated in accordance with:

- HOPPECKE Operational Manual / Recommendations / Instructions
- International Standard IEC 62485-2 Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
- Regional / National / Local Standards for the Environment

Optimal environmental compatibility - closed material cycle in certified recycling system

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