

HRL 12-211 W

12V 45Ah

ASTERION HRL-W series batteries are high-tech lead-acid batteries for modern uninterruptible power supply systems intended for responsible consumers. These are maintenance-free batteries manufactured with the use of AGM technology with a gas recombination system (VRLA). The HRL-W series is characterized by increased current efficiency due to the use of thicker electrodes, as well as high-tech formulations with structural agents in the active mass during the manufacturing process. The HRL-W series belongs to the ASTERION Xpert product line, designed especially for use in "heavy" uninterruptible power supply systems of data centers, communication systems and other high-tech equipment.



Battery construction

Element	Positive plate	Negative plate	Case	Lid	Valve	Terminal	Separator	Electrolyte
Material	Lead dioxide	Lead	ABS		Rubber	Copper	Fiberglass	Acid

Specifications

Nominal voltage.....	12 V
Cell.....	6
Design life.....	12 years
Nominal capacity (25°C)	
10 min. disch. by const. power up to 1,6V/cell.....	228 W
20 hours rate (2,33 A; 1,75 V/cell).....	46,6 Ah
10 hours rate (4,50 A; 1,80 V/cell).....	45 Ah
Self-discharge.....	3% capacity per month 20°C
Internal resistance (20°C).....	6,1 mΩ

Operating temperature range

Discharge.....	-20÷60°C
Charge.....	-10÷60°C
Storage.....	-20÷60°C
Maximum discharge current (20°C).....	450A (5sec)
Max.charge current.....	13,5 A
Cycle mode (2,35÷2,4 V/Cell)	
Temperature correction factor.....	30 mV/°C
Standby mode (2,27÷2,3 V/Cell)	
Temperature correction factor.....	20 mV/°C

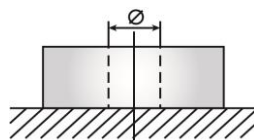
Application

- Uninterruptible power supply units
- Standby power service units
- Medical equipment
- Various fields of instrument-making industry

Layout E



Terminal type Insert Ø6 mm

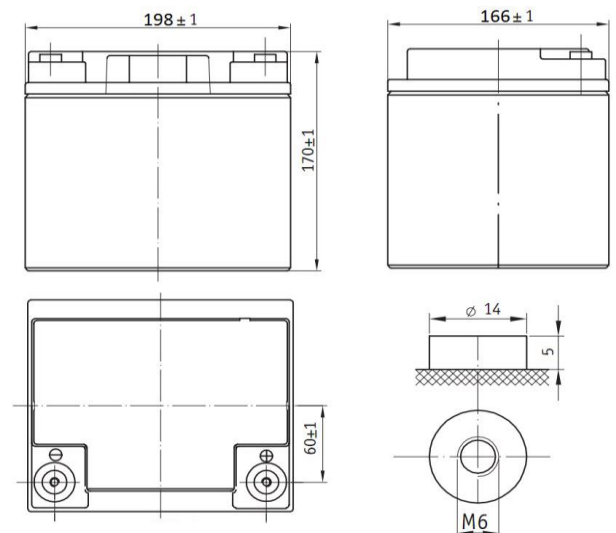


Performance & characteristics

- AGM technology allows to recombine 99% of the generated gas;
- No restrictions on air transportation;
- Compliance with the UL requirements;
- Lead plates, alloyed by calcium, provide high energy density;
- Maintenance-free. Do not require distillate topping;
- Long service life;
- The battery case is made of flame-retardant ABS plastic.

Dimensions (±2mm)

Length, mm.....	198
Width, mm.....	166
Height, mm.....	170
Height over terminals, mm.....	170
Weight (±3%), kg.....	14,8



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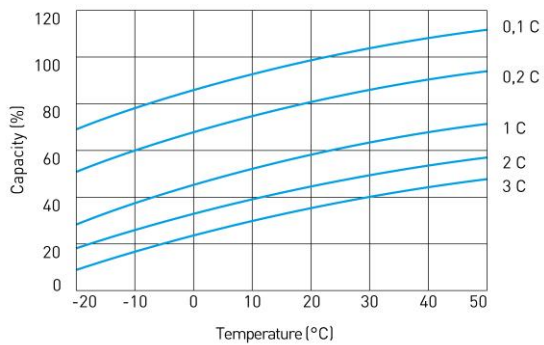
Discharge Constant Current, A (25°C)

V/cell	5 min	10 min	15 min	20 min	25 min	30 min	35 min	45 min	1 h
1,60	192	131	101	80,8	68,6	59,9	53,2	44,4	34,2
1,65	180	123	95,8	76,5	65,1	56,8	50,6	42,2	32,7
1,70	169	116	90,5	72,3	61,4	53,7	47,8	40,1	31,1
1,75	157	109	85,3	68,2	57,9	50,7	45,2	38,0	29,5
1,80	150	105	82,3	66,0	56,3	49,3	44,0	37,0	28,9

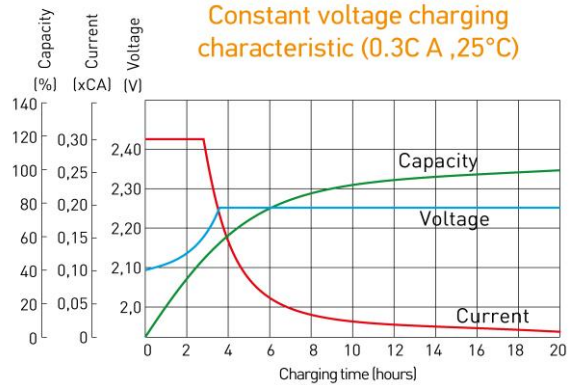
Discharge Constant Power, W/cell (25°C)

V/cell	5 min	10 min	15 min	20 min	25 min	30 min	35 min	45 min	1 h
1,60	340	228	180	143	121	105	93,0	76,4	60,9
1,65	326	219	174	138	117	102	90,0	74,2	59,2
1,70	312	211	168	134	113	98,5	87,0	71,9	57,5
1,75	296	202	162	128	109	95,0	84,2	69,6	55,9
1,80	282	193	155	124	105	91,6	81,2	67,3	54,2

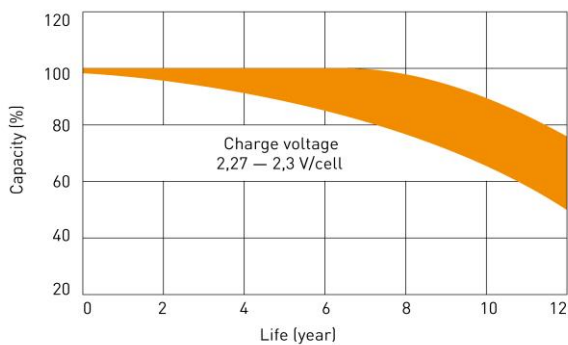
Temperature effects on capacity



Constant voltage charging characteristic (0.3C A, 25°C)



Life characteristics of Standby use



Cycle service life in relation to depth of discharge

