Narada

stored energy solutions for a demanding world

The HRL range of VRLA batteries is perfectly suited to any application which requires a high rate current over a short period. In particular, HRL batteries are ideal for UPS systems, due to their optimized plate technology and patented post design offering exceptional service life.

BAZR2.MH27487

Technical Features:

- Flame Retardant ABS Cover and Container, UL94 V-0, LOI>28%
- Patented copper alloy terminal design
- Epoxy TPS design for high reliability post seal
- 6 months of storage at 77°F (25°C) with a capacity > 80%
- Initial capacity at 100%
- Low pressure one-way flame arresting valve(s) UL1989
- Absorbent Glass Mat (AGM) Sealed Technology, Recombination efficiency of 99.9%

Compliance and Safety:

- **ISO 9001:2000 and ISO 14001:2004 certified production facilities**
- UL Recognized Component 924, for use in or with listed UL1778, UL1989 and UL924 systems
- IEC60896-21/22
- BS6290 part 4 / Eurobatt guide
- **TL9001 / ISO9001(TUV) Quality System**
- Battery installation compliant with: EN 50272-2
- All batteries meet or exceed IEEE recommended practices

Transportation:

- Classified as Nonspillable UN 2800 and meet the Nonspillable criteria listed in DOT-CFR Title 49, 171-189 (d) (3) (i) and (ii) and exempt from CFR 49, Subchapter C requirements
- Meets transportation conditions of IMDG exemption 238, IATA/ICAO Special Provision A67 (Not Restricted)

High Rate HRL-Series

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Operating Parameters

Float Charging Voltage	2.25Vpc to 2.27Vpc @ 77°F (25°C)
Equalize Charging Voltage	2.35Vpc to 2.40Vpc @ 77°F (25°C)
See Operations and Maintenance Manual for specific guidelines and recharge times	

Charging Temperature Compensation	-2 mV/cell/°F > 77°F (-3.6 mV/cell /°C > 25°C)
	+2 mV/cell/°F < 77°F (+3.6 mV/cell/°C < 25°C)

Maximum AC Ripple (Charger)	0.5% RMS, 1.5% peak-to-peak for float charge voltage for best results
Maximum Charge Current	C_5 Rate Amps (5 hour rate @ 1.75vpc)

Electrolyte	Absorbed 1.300 s.g. H_2SO_4

Self Discharge Rate	<2% per month at 77°F (25°C)

Relief Valve	Self-resealing; Operates at 2 to 3 psi and is complete with integral flame arrestor

Operating Temperature Range	
Nominal	+74°F (24°C) to 80°F (27°C)
Charge	-20°F (-28°C) to +122°F (50°C)
Discharge	-40°F (-40°C) to +140°F (60°C)
Storage Temperature Range	-4°F (-20°C) to +104°F (40°C)

Terminal Specifications

TOP TERMINAL

Model	Size - Terminal Type	Terminal Torque	
		Nm	ft-lbs.
12HRL36	F2	N/A	N/A
12HRL80	M5-F	6 ±1	65 ±5
12HRL100	M5-F	6 ±1	65 ±5
12HRL140	M5-F	6 ±1	65 ±5
12HrRL150	M6-F	8 ±1	78 ±5
12HRL200	M6-F	8 ±1	78 ±5
12HRL300	M6-F	8 ±1	78 ±5
12HRL365	M6-F	8 ±1	78 ±5
12HRL370	M6-F	8 ±1	78 ±5
12HRL400	M6-F	8 ±1	78 ±5
12HRL520	M6-F	8 ±1	78 ±5
12HRL550	M6-F	8 ±1	78 ±5
6HRL700	M8-F	10 ±1	90 ±5

FRONT TERMINAL

Model	Size - Terminal Type	Terminal Torque	
		Nm	in-lbs.
12HRL390	M6-M	8 ±1	78 ±5
12HRL600	M6-M	8 ±1	78 ±5
12HRL700	M6-M	8 ±1	78 ±5

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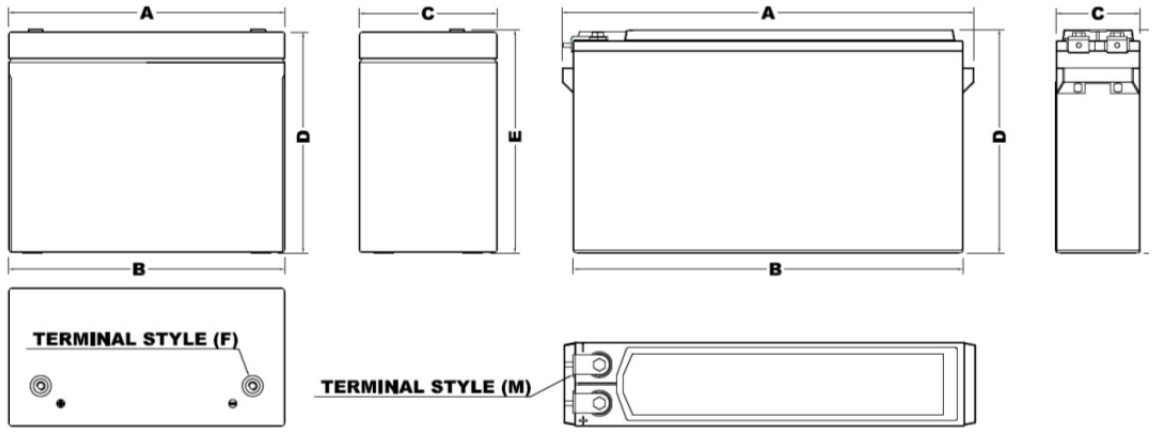
Dimensions and Specifications

TOP TERMINAL																
Model	V	Ah 20hr 1.75 vpc 77°F	wpc 5min 1.67 vpc 77°F	wpc 15min 1.67 vpc 77°F	Total Length (A.)		Base Length (B.)		Width (C.)		Height (D.)		Height Top of Terminal (E.)		Weight	
					mm	in	mm	in	mm	in	mm	in	mm	in	Kg	Lbs
12HRL36	12	8.5	60	36	151	5.94	151	5.94	65	2.56	95	3.74	101	3.98	2.5	6
12HRL80	12	19	106	78.7	181	7.13	181	7.13	76	2.99	167	6.57	167	6.57	5.8	13
12HRL100	12	28	201	100	165.5	6.52	165.5	6.52	125	4.92	175	6.89	175	6.89	9.7	22
12HRL140	12	37	191	140	195	7.68	195	7.68	130	5.12	155	6.10	180	7.09	10.7	24
12HRL150	12	42	307	150	196	7.72	196	7.72	165	6.5	170	6.69	170	6.69	14.5	32
12HRL200	12	56	308	200	230	9.06	230	9.06	138	5.43	208	8.19	211	8.31	17.5	39
12HRL300	12	75	586	300	261	10.28	261	10.28	173	6.81	201	7.91	205	8.07	25.5	57
12HRL365	12	93	747	365	304	11.97	304	11.97	165	6.5	208	8.19	215	8.46	30.2	67
12HRL370	13	95	705	370	306	12.05	306	12.05	169	6.65	211	8.31	216	8.5	29.0	64
12HRL400	12	102	706	400	341	13.43	341	13.43	171	6.73	213	8.39	216	8.5	34.0	71
12HRL520	12	136	890	520	345	13.58	345	13.58	172	6.77	275	10.83	278	10.94	43.5	96
12HRL550	12	142	894	550	345	13.58	345	13.58	172	6.77	275	10.83	278	10.94	46.0	102
6HRL700	6	216	994	700	321	12.64	321	12.64	176	6.93	226	8.9	229	9.02	32.5	72

FRONT TERMINAL														
Model	V	Ah 20hr 1.75 vpc 77°F	wpc 5min 1.67vpc 77°F	wpc 15min 1.67vpc 77°F	Total Length (A.)		Base Length (B.)		Width (C.)		Height (D.)		Weight	
					mm	in	mm	in	mm	in	mm	in	Kg	Lbs
12HRL390	12	96	666	390	511	20.12	486	19.13	110	4.33	238	9.37	34	75
12HRL600	12	153	920	600	558	21.97	529	20.81	125	4.93	316	12.45	51	113
12HRL700	12	185	1106	700	558	21.97	528	20.79	125	4.93	316	12.45	59	130



High Rate HRL-Series

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Constant Power Discharge Runtime in Minutes / Watts per Cell at 77°F (25°C) 1.60VPC												
TOP TERMINAL												
	V	**Ah**	**VPC**	**5min**	**10min**	**15min**	**20min**	**30min**	**40min**	**50min**	**1h**	**2h**
12HRL36	12	8.4	1.60	65	45	**37**	28	21	17	14	12	7
12HRL80	12	19	1.60	113	91	**81**	64	46	35	29	24	15
12HRL100	12	28	1.60	209	132	**102**	79	61	50	44	39	22
12HRL140	12	37	1.60	202	163	**145**	119	86	66	54	41	24
12HRL150	12	42	1.60	322	205	**153**	122	90	71	59	51	28
12HRL200	12	56	1.60	334	258	**211**	169	123	98	81	69	39
12HRL300	12	75	1.60	627	407	**305**	246	179	145	122	105	59
12HRL365	12	93	1.60	784	498	**373**	297	219	172	143	124	68
12HRL370	12	95	1.60	739	532	**387**	339	237	177	145	123	74
12HRL400	12	102	1.60	746	528	**412**	339	252	202	170	146	83
12HRL520	12	136	1.60	956	682	**532**	439	329	265	222	192	106
12HRL550	12	142	1.60	960	714	**563**	465	346	276	231	199	112
6HRL700	6	216	1.60	1154	906	**727**	605	453	364	305	264	154
FRONT TERMINAL												
	V	**Ah**	**VPC**	**5min**	**10min**	**15min**	**20min**	**30min**	**40min**	**50min**	**1h**	**2h**
12HRL390	12	96	1.60	699	515	**399**	327	243	186	156	135	76
12HRL600	12	153	1.60	979	773	**621**	516	388	293	250	218	123
12HRL700	12	185	1.60	1154	906	**727**	605	453	364	305	264	154

Constant Power Discharge Runtime in Minutes / Watts per Cell at 77°F (25°C) 1.67VPC												
TOP TERMINAL												
	V	**Ah**	**VPC**	**5min**	**10min**	**15min**	**20min**	**30min**	**40min**	**50min**	**1h**	**2h**
12HRL36	12	8.4	1.67	60	43	**36**	27	20	17	14	11	7
12HRL80	12	19	1.67	106	87	**79**	61	45	35	28	24	14
12HRL100	12	28	1.67	201	128	**100**	78	60	50	44	39	21
12HRL140	12	37	1.67	191	156	**140**	113	84	65	53	41	24
12HRL150	12	42	1.67	307	198	**150**	120	89	70	58	51	28
12HRL200	12	56	1.67	308	244	**202**	163	120	96	80	68	39
12HRL300	12	75	1.67	586	395	**300**	243	178	144	121	104	58
12HRL365	12	93	1.67	747	484	**365**	291	216	170	142	123	68
12HRL370	12	95	1.67	705	511	**370**	334	235	175	143	123	73
12HRL400	12	102	1.67	706	508	**400**	332	249	201	169	146	83
12HRL520	12	136	1.67	890	655	**520**	433	326	263	221	191	105
12HRL550	12	142	1.67	894	689	**550**	457	342	274	229	197	111
6HRL700	6	216	1.67	1106	867	**700**	587	444	359	303	262	153
FRONT TERMINAL												
	V	**Ah**	**VPC**	**5min**	**10min**	**15min**	**20min**	**30min**	**40min**	**50min**	**1h**	**2h**
12HRL390	12	96	1.67	666	499	**390**	322	241	185	155	134	76
12HRL600	12	153	1.67	920	736	**600**	503	384	292	249	217	122
12HRL700	12	185	1.67	1106	867	**700**	587	444	359	303	262	153

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