



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.



Technical Features:

- 10-Year Design Life
- Flame Retardant ABS Cover and Container, UL94 V-0, LOI>28%
- Patented copper alloy terminal design
- 6 months of storage at 77°F (25°C) with a capacity > 86%
- 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
- NEBS Version 4, Level 3
- Telcordia GR-1089-CORE, Issue 4
- Telcordia GR-63-CORE, Issue 4
- Manufactured under system ISO9001(TUV)
- Battery installation compliant with: EN 50272-2 or local equivalents
- NEBS Earthquake Risk Seismic Zone 4 Compliant
- Exceeds 1997 UBC Zone 4 Seismic requirements for at or below grade installations
- Exceeds 2007 IBC requirements for 125% g level

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)



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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 ₂ SO 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
Terminal Type	Torque
F5	65 in-lbs (6 Nm)
M6-M / M6-F	78 in-lbs (8 Nm)
M8-F	90 in-lbs (10 Nm)
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.
12HRL140	T5	6 ±1	65 ±5
12HRL200	M6-F	8 ±1	78 ±5
12HRL300	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

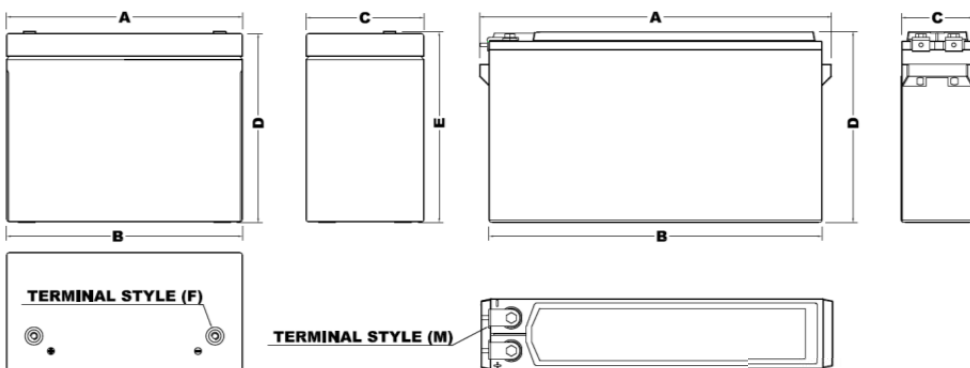
FRONT TERMINAL			
Model	Size - Terminal Type	Terminal Torque	
		Nm	ft-lbs.
12HRL390	M6-M	8 ±1	78 ±5
12HRL600	M6-M	8 ±1	78 ±5
12HRL700	M6-M	8 ±1	78 ±5

HRL High Rate Series

Dimensions and Specifications

TOP TERMINAL															
Model	V	Ah 20hr 1.75 vpc 77°F	wpc 15min 1.67vpc 77°F	Overall Length A		Base Length B		Width C		Height D		Height @ Terminal E		Weight	
				mm	in	mm	in	mm	in	mm	in	mm	in	Kg	Lbs
12HRL140	12	35	140	195	7.68	195	7.68	130	5.12	155	6.11	180	7.09	10.7	24
12HRL200	12	56	200	230	9.06	230	9.06	138	5.44	208	8.19	211	8.31	17.5	39
12HRL300	12	75	300	261	10.28	261	10.28	173	6.82	201	7.92	205	8.08	25.5	57
12HRL370	12	95	370	305	12.01	305	12.01	169	6.65	208	8.19	211	8.31	30	66
12HRL400	12	102	400	341	13.43	341	13.43	171	6.73	214	8.43	216	8.66	32	71
12HRL520	12	136	520	345	13.59	345	13.59	172	6.77	275	10.83	278	10.98	43.5	96
12HRL550	12	142	550	345	13.59	345	13.59	172	6.77	275	10.83	278	10.98	46	102
6HRL700	6	216	700	321	12.61	321	12.6	176	6.93	226	8.90	229	9.02	32.5	72

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



BatteryInformer® BI-Smart-500

- Remotely alerts, via dry contact closure, when the battery is reaching its end of life and needs to be replaced.
- Uses standard Ohmic technology.
- NEBS approved.

Model Number with BatteryInformer®: **xxHRLxxx-BI**





Narada

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Constant Power Discharge Runtime in Minutes / Watts per Cell at 77°F (25°C)

TOP TERMINAL

	V	Ah	VPC	5	10	15	20	25	30	35	40	45	50	60	90	120
12HRL140	12	35	1.67	191	156	140	113	96	84	77	69	65	53	41	30	24
			1.70	186	152	138	111	94	83	76	68	64	52	40	30	24
			1.75	182	146	134	107	91	81	74	67	63	52	40	30	24
12HRL200	12	56	1.67	284	232	210	162	137	120	109	98	93	76	65	48	38
			1.70	277	226	206	158	134	118	108	97	92	75	64	47	38
			1.75	271	217	200	153	130	115	105	95	91	74	63	47	39
12HRL300	12	75	1.67	586	395	300	243	205	178	161	144	131	121	104	74	58
			1.70	565	387	296	241	204	177	160	143	130	120	103	74	58
			1.75	526	369	286	234	199	174	157	142	129	119	102	73	58
12HRL370	12	95	1.67	666	499	390	322	275	241	205	185	169	155	134	96	76
			1.70	646	488	384	318	273	239	204	184	168	154	133	96	75
			1.75	602	462	368	309	267	235	201	183	167	153	132	96	75
12HRL400	12	102	1.67	706	508	400	332	278	249	228	201	184	169	146	105	83
			1.70	683	495	392	327	275	248	226	200	183	167	146	105	83
			1.75	632	466	375	316	265	243	220	198	182	166	145	104	82
12HRL520	12	136	1.67	890	655	520	433	363	326	298	263	240	221	191	137	105
			1.70	864	640	511	427	359	324	295	262	240	220	190	136	104
			1.75	802	605	489	412	344	316	290	257	237	217	188	135	103
12HRL550	12	142	1.67	894	689	550	457	382	342	312	274	249	229	197	141	111
			1.70	866	674	541	451	377	338	307	272	249	228	196	140	110
			1.75	819	641	518	435	362	330	301	266	245	224	194	139	109
6HRL700	6	216	1.67	994	811	735	566	471	420	381	334	304	280	258	188	153
			1.70	970	790	721	555	463	413	374	330	302	277	256	186	152
			1.75	947	761	700	535	444	403	367	326	300	273	252	185	154

Constant Power Discharge Runtime in Minutes / Watts per Cell at 77°F (25°C)

FRONT TERMINAL

	V	Ah	VPC	5	10	15	20	25	30	35	40	45	50	60	90	120
12HRL390	12	96	1.67	666	499	390	322	275	241	216	185	169	155	134	96	76
			1.70	646	488	384	318	273	239	213	184	168	154	133	95	75
			1.75	602	462	368	309	267	235	212	183	167	153	132	95	75
12HRL600	12	153	1.67	920	736	600	503	435	384	322	292	268	249	217	156	122
			1.70	880	711	586	495	431	383	321	291	266	248	216	155	121
			1.75	798	668	562	482	424	379	320	290	265	246	215	154	120
12HRL700	12	185	1.67	1106	867	700	587	490	444	402	359	343	303	262	190	153
			1.70	1080	843	683	574	485	438	399	356	342	301	261	189	152
			1.75	1021	790	645	547	468	423	388	347	334	296	258	188	151



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