



Reliable Battery Solutions

The HRL series VRLA batteries are perfectly suited to any application that requires a high rate current over a short period. In particular, HRL batteries are ideal for UPS systems and Critical power applications, Due to optimized plate technology and a patented post design the HRL series offer exceptional service life.



High Rate Series
HRL

Technical Features:

- ◆ Flame Retardant ABS Cover and Container, UL94 V-0, LOI>28%
- ◆ Patented copper alloy terminal design
- ◆ Epoxy TPS design for a 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)

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
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

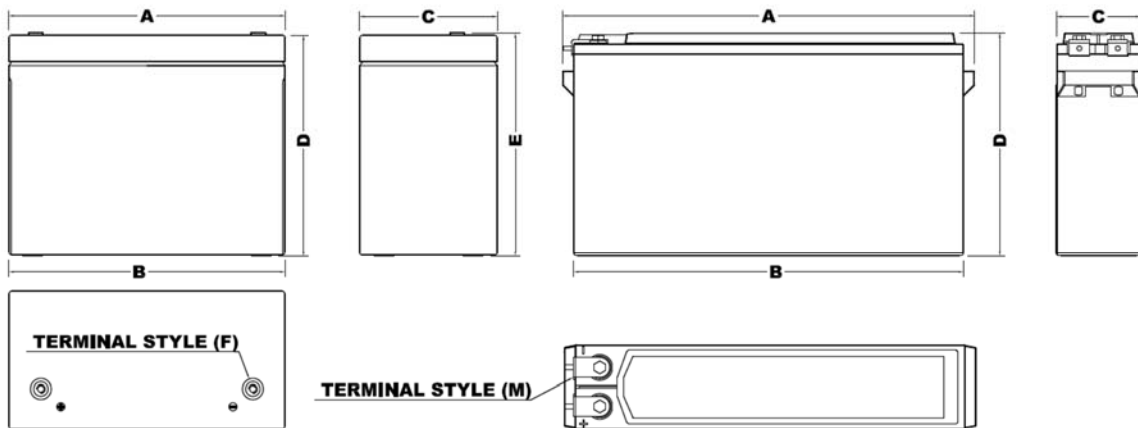
TOP TERMINAL			
Model	Size - Terminal Type	Terminal Torque	
		Nm	in-lbs.
12HRL36	F2	N/A	N/A
12HRL50	F2	N/A	N/A
12HRL80	M5-F	6 ±1	65 ±5
12HRL100	M5-F	6 ±1	65 ±5
12HRL140	M5-F	6 ±1	65 ±5
12HRL150	M6-F	8 ±1	78 ±5
12HRL200	M6-F	8 ±1	78 ±5
12HRL300	M6-F	8 ±1	78 ±5
12HRL365	M6-F	8 ±1	78 ±5
12HRL400	M6-F	8 ±1	78 ±5
12HRL550	M6-F	8 ±1	78 ±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
12HRL705	M6-M	8 ±1	78 ±5

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	66	36	151	5.94	151	5.94	65	2.56	95	3.74	101	3.98	2.5	6
12HRL50	12	12.2	75	50	151	5.94	151	5.94	98	3.86	95	3.74	100	3.94	3.94	9
12HRL80	12	19	113	80	181	7.13	181	7.13	76	2.99	167	6.57	167	6.57	6.27	14
12HRL100	12	28	145	100	166	6.52	166	6.52	125	4.92	175	6.89	175	6.89	9.7	22
12HRL140	12	33	276	140	195	7.68	195	7.68	130	5.12	158	6.22	180	7.09	11.9	27
12HRL150	12	42	220	150	196	7.72	196	7.72	165	6.5	170	6.69	170	6.69	14.5	32
12HRL200	12	56	430	210	230	9.06	230	9.06	138	5.43	208	8.19	215	8.46	18.5	41
12HRL300	12	75	586	300	261	10.3	261	10.3	173	6.81	201	7.91	205	8.07	25.5	57
12HRL365	12	93	747	365	304	12.0	304	12.0	168	6.61	208	8.19	215	8.46	30.2	67
12HRL400	12	100	767	400	337	13.3	324	12.8	173	6.81	213	8.39	215	8.46	34.0	75
12HRL550	12	140	1044	550	337	13.3	324	12.8	173	6.81	276	10.9	278	10.9	45	99

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	667	390	511	20.12	486	19.1	110	4.33	238	9.37	34	75
12HRL600	12	153	1068	600	550	21.65	530	20.87	125	4.90	285	11.23	51	113
12HRL700	12	193	1167	751	558	22.00	528	20.79	125	4.93	316	12.5	59	130



Discharge Rates

HRL High Rate Series

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			
12HRL300	12	75	1.60	627	407	305	246	179			
12HRL365	12	93	1.60	784	498	373	297	219			
12HRL400	12	102	1.60	827	549	412	339	252			
12HRL550	12	142	1.60	1096	758	578	472	346			
FRONT TERMINAL											
	V	Ah	VPC	5min	10min	15min	20min	30min			
12HRL390	12	96	1.60	709	524	404	330	243			
12HRL600	12	153	1.60	1165	850	621	516	388			
12HRL700	12	185	1.60	1301	984	790	653	462			

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
12HRL50	12	12.2	1.67	99	64	49	45	29.5	23	26.1	16.8	9.2
12HRL80	12	19	1.67	164	106	80	64	47	34.8	28.4	24.2	14.4
12HRL100	12	28	1.67	205	133	100	80	59	50.2	44.2	39.1	21.3
12HRL140	12	37	1.67	276	179	140	113	84	71	62	54	27.5
12HRL150	12	42	1.67	307	199	150	120	89	70	58.3	50.5	27.8
12HRL200	12	56	1.67	430	287	210	168	124	106.5	93	81	41.3
12HRL300	12	75	1.67	586	395	300	243	178	144	121	104	58.2
12HRL365	12	93	1.67	747	484	365	291	216	170	141.9	122.8	67.6
12HRL400	12	102	1.67	757	536	400	332	249	201	169	146	82.6
12HRL550	12	142	1.67	1044	722	550	449	343	277	232	199	110
FRONT TERMINAL												
	V	Ah	VPC	5min	10min	15min	20min	30min	40min	50min	1h	2h
12HRL390	12	96	1.67	667	499	390	322	241	184.9	155.2	134	75.5
12HRL600	12	153	1.67	1068	798	600	503	384	292	249	217	122
12HRL700	12	185	1.67	1167	913	751	641	465	380	319	275	152

China: **Narada**
 NARADA POWER SOURCE CO.,LTD.
 No.459 Wensan Road, Hangzhou, Zhejiang, P.R.China

MP Narada MPI-Narada
 44 Oak St
 Newton, MA 02464
 Tel: 800-982-4339
 sales@mpinarada.com www.mpinarada.com

