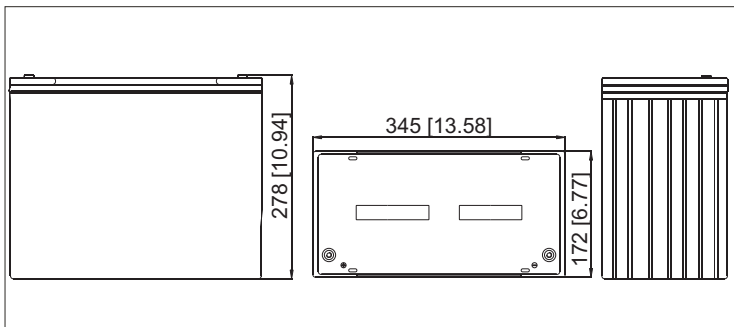


Model: **HR12V475**

HR Series

The HR range of VRLA batteries is perfectly suited to any application which requires a high rate current over a short period. In particular they are ideal for UPS systems thanks to their optimized performance and a patented post seal design. The rugged ABS container and flexible handles ensure that installation is also easily performed and trouble-free. A design life of 10 years completes the package.

Dimensions—mm [inch]



Specifications

Battery Model	HR12V475
Nominal Voltage	12V
Rated Capacity	475 Watts per cell at the 15 minute rate to 1.67 volts per cell @25°C(77°F)
Typical Weight	45kg
Internal Resistance	Approx 4.63mΩ
Temperature Ranges	Operation (maximum): -40°C to 55°C(-40°F to 131°F)
	Operation (recommended): 15°C to 25°C(59°F to 77°F)
	Storage: -20°C to 40°C(-4°F to 104°F)
Float Voltage	2.27V/cell@25°C(77°F)
Recommended Maximum Charging Current Limit	40.2A
Equalize and Cycle Service	2.35V~2.40V@25°C(77°F)
Self Discharge	The residual capacity is above 87% after 90 days storage(25°C/77°F)
Terminal	M8 Female
Terminal Hardware Torque	10 ± 1.0Nm
Container Material	ABS (V0 optional)

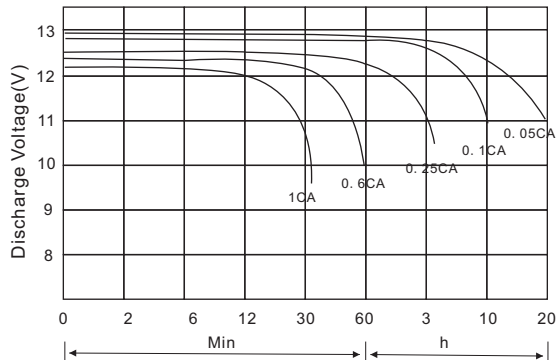
Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)

End voltage per cell	5MIN	10MIN	15MIN	20MIN	30MIN	40MIN	50MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	537	381	270	247	172	130	106	89.1	51.7	34.8	28.3	23.8	20.4	15.5	12.9
1.67V	507	361	255	239	167	127	103	88.3	51.2	34.5	28.0	23.6	20.2	15.3	12.8
1.70V	493	349	248	234	165	125	101	87.4	50.7	34.1	27.8	23.3	20.1	15.1	12.7
1.75V	408	297	231	227	156	122	98.7	86.5	50.3	33.8	27.6	23.0	19.7	14.9	12.5
1.80V	351	271	214	211	147	119	97.6	83.1	49.3	33.2	26.6	22.2	19.4	14.7	12.1
1.85V	295	238	194	195	136	117	95.5	81.2	46.8	32.5	26.0	21.2	18.4	14.1	11.6
1.90V	237	182	164	156	120	97.4	83.1	73.5	44.3	30.1	23.4	19.6	16.6	13.2	10.8

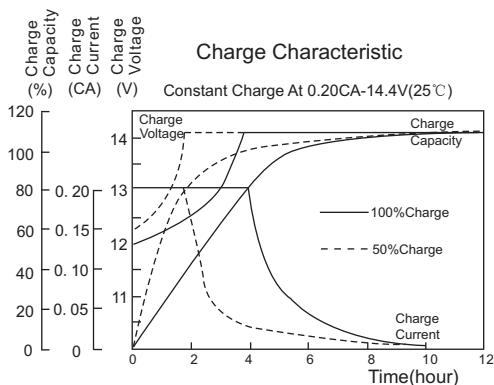
Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)

End voltage per cell	5MIN	10MIN	15MIN	20MIN	30MIN	40MIN	50MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	948	682	496	454	318	237	195	165	97.6	66.2	54.4	45.9	39.6	30.3	25.3
1.67V	905	655	475	447	315	234	191	165	97.0	65.9	53.9	45.9	39.4	29.9	25.1
1.70V	887	639	464	440	311	231	188	164	96.4	65.5	53.7	45.4	39.3	29.8	25.1
1.75V	746	553	432	428	296	229	186	165	97.5	66.1	53.8	45.2	38.8	29.5	24.9
1.80V	654	513	409	399	281	229	188	161	96.1	64.6	51.9	43.8	38.4	29.1	24.1
1.85V	561	454	372	376	262	226	185	158	91.3	63.8	51.3	42.0	36.3	28.1	23.2
1.90V	452	349	316	301	233	189	162	144	86.9	59.2	46.0	38.8	33.0	26.3	21.8

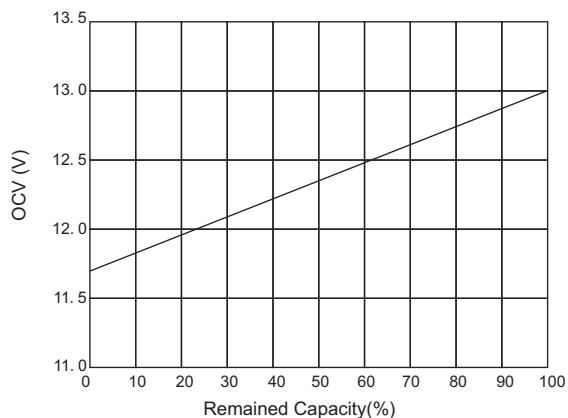
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



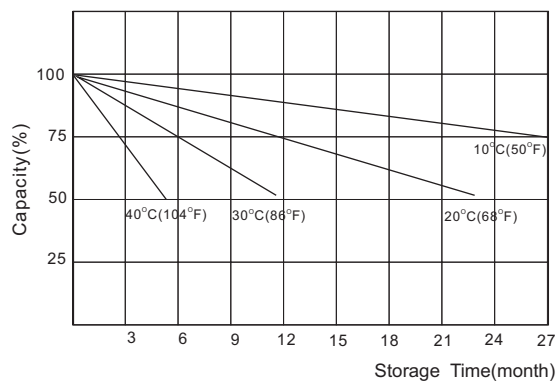
Battery Voltage Vs. Charge Time



Relationship of OCV Vs. State of Charge



Capacity Retention Characteristic



Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle	25°C	2.40	2.35~2.45	33. 5A
Standby	25°C	2.27	2.25~2.29	

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.80	1.70	1.55	1.30
Discharge Current (A)	26. 8A ≥ I	26. 8A < I < 67A	67A < I < 134A	I > 134A

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