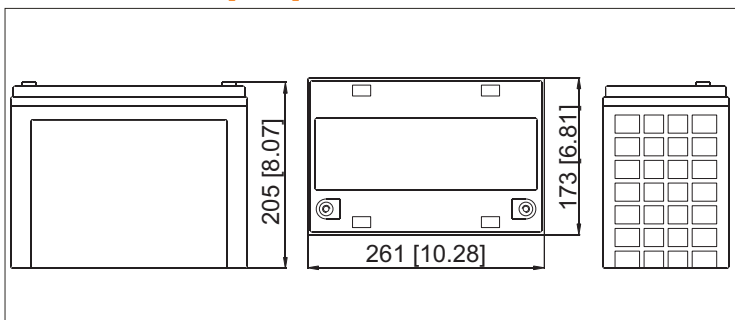


Model: **HR12V270**

**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	HR12V270
Nominal Voltage	12V
Rated Capacity	270 Watts per cell at the 15 minute rate to 1.67 volts per cell @25°C(77°F)
Typical Weight	26.0kg
Internal Resistance	Approx 6.5mΩ
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	22.5A
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	M6 Female
Terminal Hardware Torque	10 ± 1.0Nm
Container Material	ABS (V0 optional)

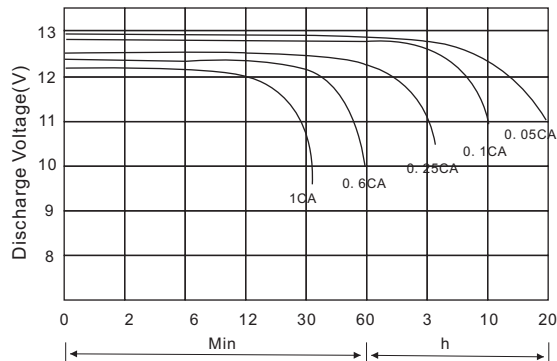
**Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)**

End voltage per cell	5min	10min	15min	20min	30min	40min	50min	1h	2h	3h	4h	5h	6h	8h	10h
1.60V	305	217	154	138	96.1	72.7	59.3	49.9	29.0	19.5	15.9	13.3	11.4	8.69	7.22
1.67V	288	206	145	134	93.7	71.2	57.5	49.4	28.7	19.3	15.7	13.2	11.3	8.55	7.14
1.70V	281	199	141	131	92.1	69.8	56.4	48.9	28.4	19.1	15.6	13.0	11.2	8.48	7.10
1.75V	232	169	131	127	87.2	68.3	55.2	48.4	28.1	18.9	15.4	12.9	11.0	8.34	7.00
1.80V	200	154	122	118	82.3	66.8	54.6	46.5	27.6	18.6	14.9	12.4	10.8	8.23	6.78
1.85V	168	135	110	109	76.4	65.7	53.5	45.4	26.2	18.2	14.6	11.9	10.3	7.89	6.49
1.90V	135	103	93.5	87.2	67.3	54.5	46.5	41.1	24.8	16.8	13.1	11.0	9.27	7.36	6.04

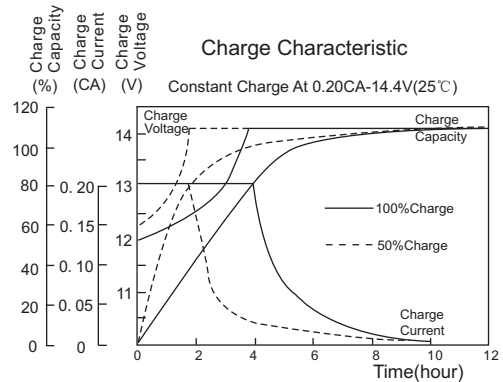
**Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)**

End voltage per cell	5min	10min	15min	20min	30min	40min	50min	1h	2h	3h	4h	5h	6h	8h	10h
1.60V	540	388	282	254	178	133	109	92.3	54.6	37.0	30.4	25.7	22.2	16.9	14.2
1.67V	515	373	270	250	176	131	107	92.4	54.3	36.9	30.2	25.7	22.1	16.8	14.1
1.70V	505	363	264	247	174	129	105	92.0	54.0	36.6	30.1	25.4	22.0	16.7	14.1
1.75V	425	315	246	240	166	128	104	92.4	54.6	37.0	30.1	25.3	21.7	16.5	13.9
1.80V	372	292	233	223	157	128	105	89.9	53.8	36.2	29.0	24.5	21.5	16.3	13.5
1.85V	319	259	212	210	147	127	104	88.6	51.1	35.7	28.7	23.5	20.3	15.7	13.0
1.90V	257	198	180	168	130	106	90.7	80.6	48.6	33.1	25.8	21.7	18.4	14.7	12.2

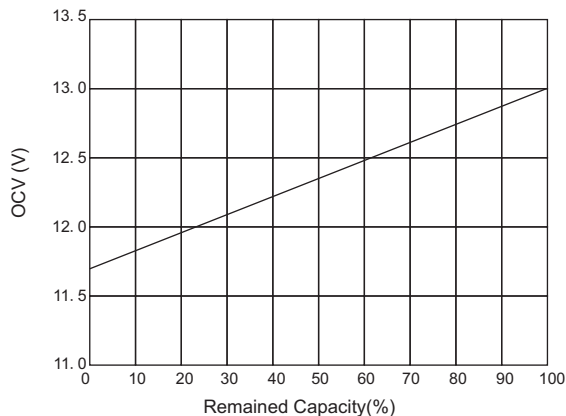
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



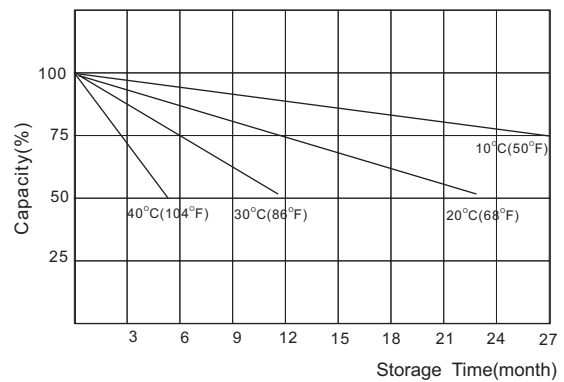
Battery Voltage Vs. Charge Time



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	17. 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)	14A ≥ I	14A < I < 35A	35A < I < 70A	I > 70A

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