

# Power

## AlphaCell HR

VRLA Battery for High Rate UPS Standby Power Applications



- Front Access threaded copper alloy inserts for reduced maintenance and increased safety
- Front terminal design maximizing energy density with direct connect extrusion fusion weld technology
- Reduced headspace driving higher energy density in cabinet or rack applications
- Removable handles for ease of installation
- Thermally welded case-to-cover bond to ensure a leak-proof seal

The AlphaCell HR valve regulated lead acid battery is designed for UPS standby power applications. This model features Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% as well as flame-arresting one-way pressure-relief vent for safety and long life.



## AlphaCell HR

### Specifications

Operating Temperature Range with temperature compensation:	Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C)
Nominal Operating Temperature Range:	+74°F (23°C) to +80°F (27°C)
Recommended Maximum Charging Current Limit:	C/5 amperes @ 20 Hr rate
Float Charging Voltage:	13.5 to 13.8 Vdc average per 12V unit @ 77°F (25°C)
Maximum AC Ripple (Charger):	0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. Max voltage allowed = 1.4% RMS (4% P-P) Max current allowed = C/20
Self Discharge:	Battery can be stored up to 6 months at 77°F (25°C) before a freshening charge is required. Batteries stored at temperatures greater than 77°F (25°C) will require recharge sooner than batteries stored at lower temperatures.
Equalize charge and cycle service voltage:	14.40 to 14.80 Vdc average per 12V unit @ 77°F (25°C)
Terminal: Inserted - Inter-unit connector provided:	Threaded copper alloy insert terminal to accept 1/4-20 UNC bolt
Terminal Hardware Initial Torque:	110 in.-lbs. (12.4 N-m)
Dimensions H x D x W (in/mm):	12.60 x 22.01 x 4.95 / 320.04 x 559.05 x 125.73

Model	Cells per Unit	Battery Weight		Maximum Terminal Discharge Current Rating (AMPS)
		lbs	kg	
AlphaCell 700 HR	6	131	60	800

### Typical Impedance Measurement Values\*

	HP	Alber	Midtronics	AVO Biddle
Model	milli-Ohms @ 60Hz	micro-Ohms	Mhos	milli-Ohms
AlphaCell 700 HR	2.59	3480	1836	2.45

\* Per IEEE 1188-2005, Internal ohmic values are useful as a trending tool. To use these readings effectively, accurate baseline readings should be taken after about six months of battery operation. Internal ohmic readings taken without the benefit of baseline data may be difficult to interpret and of limited value. Values provided are for reference only.

### Constant Power Discharge Ratings - Watts per Cell @ 77°F (25°F)

Model	Voltage	AH 20 hr*	Operating Time (in minutes) to 1.67 Volts per Cell								
			5	10	15	20	30	40	50	60	90
AlphaCell 700 HR	12	206	1058.8	853.6	700.0	575.3	432.5	349.0	294.0	254.6	182.9

\*Nominal 20 hr rate to 1.75 VPC in Ampere-Hours

### Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C)

Operating Time to End Point Voltage (in minutes)										
End Point Volts/Cell	5	10	15	20	30	40	45	50	60	90
1.75	821.1	700.8	596.0	512.5	398.3	326.9	300.6	278.5	243.2	177.7
1.70	961.5	804.0	665.6	559.0	422.4	341.9	312.9	288.7	250.8	181.5
1.67	1058.8	853.6	700.0	575.3	432.5	349.0	319.0	294.0	254.6	182.9
1.65	1075.6	866.0	699.2	581.1	436.1	351.8	321.5	296.3	256.7	184.5
1.60	1097.4	881.5	712.2	592.2	444.1	357.5	326.4	300.5	259.8	186.0

### Constant Current Discharge Ratings - Amperes @ 77°F (25°F)

Operating Time to End Point Voltage (in hours)										
End Point Volts/Cell	1	2	3	5	8	10	12	20	24	72
1.85	105	66.1	48.8	32.5	21.9	18.1	15.4	9.67	8.16	2.60
1.80	116	70.4	51.7	34.4	23.1	19.0	16.2	10.1	8.54	2.70
1.75	124	74.0	53.8	35.5	23.7	19.5	16.5	10.3	8.70	2.80

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