12AL007

AMARON QUANTATM

The industrial segment SMF-VRLA (Valve Regulated Lead Acid) battery for UPS applications is built to perform.

In short, the lifeline to your UPS applications

AMARON QUANTA TM is a

product of fail- safe, fool-proof battery technology, produced and tested in our premier manufacturing facility. Built to the highest technical competence in its class, the QUANTA is an example of Amara Raja's commitment to bringing the best of technology to your table

It features several firsts for the battery industry like the unique Radgrid[™]

Rated Capacity	_	7Ah / C ₂₀ Hr / 1.75VPC / 27°C
	Length	151 mm (5.94 in.)
Dimensions (±2mm)	Width	65 mm (2.25 in.)
	Total Height	100 mm (3.39 in.)
Weight (±5%)	_	2.2 Kg (4.85 lbs)
Terminal Type	_	F1/F2 (Faston tab)
	6.40 Ah	(10hr, 0.64 A, 10.5 V/battery)
Capacity @ 27°C	5.90 Ah	(5hr, 1.18 A, 10.2 V/battery)
	4.23 Ah	(1hr, 4.23 A, 9.6V /battery)
Case Material		Acrylonitrile Butadiene Styrene (ABS)
Internal Resistance (IR)	_	Approx. 25 m Ω for a fully charged battery (27°C)
Max. discharge current (5 sec)	_	105 A
Operating Temp. range	_	-20°C to +60°C (50 to 60°C for shorter duration)
Nominal Operating Temp. range		$27^{\circ}C \pm 3^{\circ}C$
	Charging Voltage	13.5 to 13.8V/battery
Standby use (27°C)	Charging Current	Max. 25% of rated capacity
	Temp. Compensation	± 18 mV/battery/°C
	Charging Voltage	14.4 to 14.7V/battery
Cyclic use (27°C)	Charging Current	Max. 25% of rated capacity
	Temp. Compensation	$\pm 30 mV/battery/^{\circ}C$

CUAN

LIFE UNINTERRUPTED

12V

Constant Current discharge rating (amperes) @ 27°C *										
ECV/ Time	10 min	15 min	30 min	60 min	2 hrs	3 hrs	5 hrs	10 hrs	20 hrs	
1.60	15.33	12.29	7.35	4.23	2.52	1.80	1.26	0.67	0.38	
1.70	14.39	11.24	6.72	4.09	2.34	1.70	1.18	0.66	0.37	
1.75	13.86	10.92	6.62	4.00	2.29	1.65	1.12	0.64	0.35	

	Constant Power discharge rating (watts per battery) @ 27°C *										
ECV/ Time	10 min	15 min	30 min	60 min	2 hrs	3 hrs	5 hrs	10 hrs	20 hrs		
1.60	176.16	133.62	85.45	44.78	26.79	20.97	14.24	8.42	4.36		
1.70	170.29	129.26	82.78	43.45	26.12	20.54	13.94	8.24	4.30		
1.75	163.92	124.90	80.30	42.18	25.57	20.12	13.70	8.12	4.24		

Note:

Note:

 The above data are average values per battery and can be obtained within five charge/discharge cycle
 Interace of ±5% is applicable for the above constant power discharge and constant current discharge values.
 Recommended to follow IEEE -485 Standard for Battery sizing (In terms of Aging Margin), Design Margin) for Optimal Performance & Life.
 Considerable Voltage drop across cables, if any shall be considering during battery sizing.

 **Design improvement is a continuous process of Amara Raja. As a result, specifications are subject to change without prior notice

Specification

Nominal Voltage

_

_

_

Self-Discharge



<4% per month at 27°C



CAUTION

- Avoid short circuit
- Don't charge in a sealed container





THE LONG LIFE UPS BATTERY



AMARA RAJA BATTERIES LIMITED • CORPORATE OPERATIONS OFFICE:

www.amararajabatteries.com

Features

- ✓ Proven AGM technology that ensures maintenance free characteristics
- ✓ Low self-discharge rates for extended storage periods
- ✓ Design float life of up to 6 years
- ✓ Clean and Sleek looks

Compliance

- ✓ Complies to JIS C 8702
- ✓ UL (UL-1989) & CE Certified
- ✓ Complies to IEC 61056
- ✓ Complies to IEC 60896

Shelf Life Characteristics



Battery Layout

F1 Terminal







Applications

- ✓ Small UPS System
- ✓ Emergency Lighting
- ✓ Fire Alarm System
- ✓ Safety, Surveillance & Security Systems
- ✓ Medical Equipment

Quality Standards

Manufactured in best-in-class facility certified to

- ✓ ISO 9001: 2015
- ✓ ISO 14001: 2015
- ✓ ISO 45001:2018

Temperature Effect on Capacity









REGISTERED OFFICE & Manufacturing Facility-1: UNIT-I,Karakambadi - 517520, Tirupati, Andhra Pradesh, INDIA, TEL: +91-877-2265000, FAX: +91-877-2285600 Manufacturing Facility-2

Terminal A, 1-18/1/AMR/NR, Nanakramguda, Gachibowli, Hyderabad-500032, INDIA, E-Mail: mktg@amararaja.com

UNIT-II, Nunegundlapalle, Bangarupalyam, Chittoor - 517416. Andhra Pradesh, INDIA

**Design improvement is a continuous process of Amara Raja. As a result, specifications are subject to change without prior notice

ARBL/IAE/AQ/07Ah; May'2022, Rev-00





Battery	Particulars

• Battery Type	: Maintenance Free Valve Regulated Lead Acid (MF-VRLA)
Battery Rating	: 12V-7.2Ah to 10.5 EMV @ C20 at 27°C
Manufacturers Model No	: 12AL007
Volts/Module	: 12 volts
• Module dimensions (L x W H)±2mm	: (151 X 65 X 101) mm Approx.
• Module weight ±5%	: 2.47Kg. Approx.
Terminal Type	: F2 (Faston tab)
Charge Regime	: Batteries shall be charged in constant potential mode with current limit.
• Stand by charging voltage	: 13.5 to 13.8 volts per module @ 27°C
• Cyclic charging voltage	: 14.2 to 14.4 Volts Per Cell @ 27°C
Charging current Limit	: 0.72Amps minimum to 1.80Amps maximum
• Temperature compensation	: Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery
Product Details	
• AH efficiency	: Above 95%
• WH efficiency	: Above 85%
• Self Discharge/Week @ 27°C	: $< 1\%$ of rated capacity
• Recommended Max. period of storage	: 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C
Poly Material	: Acrylonitrile Butadiene Styrene (ABS)
• Type of separator	: Highly absorbent Micro porous spun glass matrix.(AGM)
• Type of +ve & -ve plates	: Flat pasted.
• Internal resistance (fully charged) approx.	: $<25\mathrm{m}\Omega$ at 27°C
• Max. discharge current (5 sec)	: 108A
• Voltage ripple allowable	: <2% of RMS value
Applicable Standards	

• Batteries generally conforms to JIS 8702C International Standard

Constant current discharge rating - amps at 27° C

ECV/Duration	10min	15min	30min	60min	2hr	3hr	5hr	10hr	20hr
1.6	16.3	13	7.8	4.7	2.8	1.9	1.3	0.7	0.4
1.7	15.3	11.9	7.2	4.55	2.6	1.8	1.22	0.68	0.38
1.75	14.7	11.6	7.1	4.45	2.55	1.75	1.16	0.66	0.36
1.8	14.1	11.3	7.0	4.35	2.50	1.70	1.10	0.64	0.34

Constant power discharge rating - watts at 27°C

ECV/Duration	10min	15min	30min	60min	2hr	3hr	5hr	10hr	20hr
1.6	199.5	156.8	92.7	58	35.7	23.4	16	8.5	4.6
1.7	195.8	146.2	88.6	55.9	32.7	22.1	15	8.4	4.4
1.75	185.7	140.9	86.8	54.9	31.3	21.7	14.6	8.3	4.3
1.8	175.6	135.6	84.9	53.8	29.9	21.2	14.2	8.2	4.2

Note: 1. The above data are average values per battery and can be obtained within five charge/discharge cycles. 2. A tolerance of $\pm 5\%$ is applicable for the above constant power discharge and constant current discharge values.



Battery Particulars



• Battery Rating : 12V-9Ah to 10.5 EMV @ C20 at 27°C • Manufacturers Model No : 12AL009 • Volts/Module : 12 volts • Module dimensions (L x W H) \pm 2mm : (151 X 65 X 100) mm Approx. • Module weight \pm 5% : 2.7Kg. Approx. • Terminal Type : F2 (Faston tab) Charge Regime : Batteries shall be charged in constant potential mode with current limit. • Stand by charging voltage : 13.5 to 13.8 volts per module @ 27°C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27°C • Charging current Limit : 0.90Amps minimum to 2.25Amps maximum • Temperature compensation : Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27°C : < 1% of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : 145A • Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	• Battery Type	: Maintenance Free Valve Regulated Lead Acid (MF-VRLA)
• Manufacturers Model No : 12AL009 • Volts/Module : 12 volts • Module dimensions (L x W H) \pm 2mm : (151 X 65 X 100) mm Approx. • Module weight \pm 5% : 2.7Kg. Approx. • Terminal Type : F2 (Faston tab) Charge Regime : Batteries shall be charged in constant potential mode with current limit. • Stand by charging voltage : 13.5 to 13.8 volts per module @ 27°C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27°C • Charging current Limit : 0.90Amps minimum to 2.25Amps maximum • Temperature compensation : Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27°C : < 1% of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : 14m\Omega at 27°C • Max. discharge current (5 sec) : 135A • Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	Battery Rating	: 12V-9Ah to 10.5 EMV @ C20 at 27°C
• Volts/Module : 12 volts • Module dimensions (L x W H) \pm 2mm : (151 X 65 X 100) mm Approx. • Module weight \pm 5% : 2.7Kg. Approx. • Terminal Type : F2 (Faston tab) Charge Regime : F2 (Faston tab) Charge Regime : Batteries shall be charged in constant potential mode with current limit. • Stand by charging voltage : 13.5 to 13.8 volts per module @ 27°C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27°C • Charging current Limit : 0.90Amps minimum to 2.25Amps maximum • Temperature compensation : Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27°C : < 1% of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : 14m\Omega at 27°C • Max. discharge current (5 sec) : 135A • Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	Manufacturers Model No	: 12AL009
• Module dimensions (L x W H) ± 2 mm : (151 X 65 X 100) mm Approx. • Module weight $\pm 5\%$: 2.7Kg. Approx. • Terminal Type : F2 (Faston tab) Charge Regime : F2 (Faston tab) Charge Regime : 13.5 to 13.8 volts per module @ 27°C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27°C • Charging current Limit : 0.90Amps minimum to 2.25Amps maximum • Temperature compensation : Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27°C : < 1% of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : 14m\Omega at 27°C • Max. discharge current (5 sec) : 135A • Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	Volts/Module	: 12 volts
• Module weight $\pm 5\%$: 2.7Kg. Approx. • Terminal Type : F2 (Faston tab) Charge Regime : Batteries shall be charged in constant potential mode with current limit. • Stand by charging voltage : 13.5 to 13.8 volts per module @ 27°C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27°C • Charging current Limit : 0.90Amps minimum to 2.25Amps maximum • Temperature compensation : Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27°C : < 1% of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : 14m\Omega at 27°C • Max. discharge current (5 sec) : 135A • Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	• Module dimensions (L x W H)±2mm	: (151 X 65 X 100) mm Approx.
• Terminal Type : F2 (Faston tab) Charge Regime : F3 (Faston tab) Charge Regime : Batteries shall be charged in constant potential mode with current limit. • Stand by charging voltage : 13.5 to 13.8 volts per module @ 27° C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27° C • Charging current Limit : 0.90Amps minimum to 2.25Amps maximum • Temperature compensation : Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27° C : < 1% of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27° C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : 14m\Omega at 27° C • Max. discharge current (5 sec) : 135A • Voltage ripple allowable : $< 2\%$ of the RMS Value Applicable Standards	• Module weight ±5%	: 2.7Kg. Approx.
Charge Regime: Batteries shall be charged in constant potential mode with current limit.• Stand by charging voltage: 13.5 to 13.8 volts per module @ 27° C• Cyclic charging voltage: 14.4 to 15.0 Volts Per Cell @ 27° C• Charging current Limit: 0.90Amps minimum to 2.25Amps maximum• Temperature compensation: Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details • AH efficiency: Above 95%• WH efficiency: Above 85%• Self Discharge/Week @ 27° C: < 1% of rated capacity	• Terminal Type	: F2 (Faston tab)
• Stand by charging voltage : 13.5 to 13.8 volts per module @ 27° C • Cyclic charging voltage : 14.4 to 15.0 Volts Per Cell @ 27° C • Charging current Limit : 0.90 Amps minimum to 2.25 Amps maximum • Temperature compensation : Stand by: -18 mV/°C/battery, Cyclic: -30 mV/°C/battery Product Details • AH efficiency : Above 95% • WH efficiency : Above 85% • Self Discharge/Week @ 27° C : $<1\%$ of rated capacity • Recommended Max. period of storage : 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27° C • Poly Material : Acrylonitrile Butadiene Styrene (ABS) • Type of separator : Highly absorbent Micro porous spun glass matrix.(AGM) • Type of +ve & -ve plates : Flat pasted. • Internal resistance (fully charged) approx. : $14m\Omega$ at 27° C • Max. discharge current (5 sec) : $135A$ • Voltage ripple allowable : $<2\%$ of the RMS Value Applicable Standards	Charge Regime	: Batteries shall be charged in constant potential mode with current limit.
 Cyclic charging voltage 14.4 to 15.0 Volts Per Cell @ 27°C 0.90Amps minimum to 2.25Amps maximum 1 emperature compensation Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details AH efficiency Above 95% WH efficiency Above 85% Self Discharge/Week @ 27°C (1% of rated capacity) Recommended Max. period of storage Solution of storage Acrylonitrile Butadiene Styrene (ABS) Type of separator Highly absorbent Micro porous spun glass matrix.(AGM) Type of +ve & -ve plates Flat pasted. Internal resistance (fully charged) approx. 14mΩ at 27°C Max. discharge current (5 sec) Voltage ripple allowable Applicable Standards 	 Stand by charging voltage 	: 13.5 to 13.8 volts per module @ 27°C
• Charging current Limit: 0.90Amps minimum to 2.25Amps maximum• Temperature compensation: Stand by: $-18mV/^{\circ}C/battery$, Cyclic: $-30mV/^{\circ}C/battery$ Product Details • AH efficiency: Above 95%• WH efficiency: Above 85%• Self Discharge/Week @ 27^{\circ}C: < 1% of rated capacity• Recommended Max. period of storage: 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C• Poly Material: Acrylonitrile Butadiene Styrene (ABS)• Type of separator: Highly absorbent Micro porous spun glass matrix.(AGM)• Type of +ve & -ve plates: Flat pasted.• Internal resistance (fully charged) approx.: 14m\Omega at 27°C• Wat. discharge current (5 sec): 135A• Voltage ripple allowable: < 2% of the RMS Value	Cyclic charging voltage	: 14.4 to 15.0 Volts Per Cell @ 27°C
 Temperature compensation Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery Product Details AH efficiency Above 95% WH efficiency Above 85% Self Discharge/Week @ 27°C < 1% of rated capacity Self Discharge/Week @ 27°C < 1% of rated capacity 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C Poly Material Acrylonitrile Butadiene Styrene (ABS) Type of separator Highly absorbent Micro porous spun glass matrix.(AGM) Type of +ve & -ve plates Flat pasted. Internal resistance (fully charged) approx. Max. discharge current (5 sec) Voltage ripple allowable < 2% of the RMS Value 	Charging current Limit	: 0.90Amps minimum to 2.25Amps maximum
Product Details• AH efficiency: Above 95%• WH efficiency: Above 85%• Self Discharge/Week @ 27°C: < 1% of rated capacity	• Temperature compensation	: Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery
 AH efficiency WH efficiency Self Discharge/Week @ 27°C Recommended Max. period of storage Poly Material Type of separator Type of +ve & -ve plates Flat pasted. Internal resistance (fully charged) approx. Max. discharge current (5 sec) Voltage ripple allowable < 2% of the RMS Value 	Product Details	
 WH efficiency Self Discharge/Week @ 27°C Recommended Max. period of storage Poly Material Type of separator Type of +ve & -ve plates Internal resistance (fully charged) approx. Max. discharge current (5 sec) Yoltage ripple allowable Above 85% Self Discharge/Week @ 27°C Above 85% Solution of storage Above 85% Solution of rated capacity Acrylonitrile Butadiene of manufacturing and the batteries shall be Stored in covered area at 27°C Highly absorbent Micro porous spun glass matrix.(AGM) Flat pasted. ItamΩ at 27°C 135A Voltage ripple allowable < 2% of the RMS Value 	• AH efficiency	: Above 95%
 Self Discharge/Week @ 27°C Recommended Max. period of storage Poly Material Type of separator Type of +ve & -ve plates Internal resistance (fully charged) approx. Max. discharge current (5 sec) Voltage ripple allowable Applicable Standards Self Discharge/Week @ 27°C S Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C Acrylonitrile Butadiene Styrene (ABS) Highly absorbent Micro porous spun glass matrix.(AGM) Flat pasted. 14mΩ at 27°C 2% of the RMS Value 	• WH efficiency	: Above 85%
 Recommended Max. period of storage Recommended Max. period of storage 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C Poly Material Acrylonitrile Butadiene Styrene (ABS) Type of separator Highly absorbent Micro porous spun glass matrix.(AGM) Type of +ve & -ve plates Highly absorbent Micro porous spun glass matrix.(AGM) Flat pasted. Internal resistance (fully charged) approx. Max. discharge current (5 sec) 14mΩ at 27°C 135A Voltage ripple allowable < 2% of the RMS Value 	• Self Discharge/Week @ 27°C	< 1% of rated capacity
 Poly Material Type of separator Type of +ve & -ve plates Internal resistance (fully charged) approx. Max. discharge current (5 sec) Voltage ripple allowable < 2% of the RMS Value 	• Recommended Max. period of storage	: 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C
 Type of separator Type of +ve & -ve plates Internal resistance (fully charged) approx. Max. discharge current (5 sec) Voltage ripple allowable < 2% of the RMS Value 	Poly Material	: Acrylonitrile Butadiene Styrene (ABS)
 Type of +ve & -ve plates Internal resistance (fully charged) approx. Max. discharge current (5 sec) Voltage ripple allowable < 2% of the RMS Value Applicable Standards	• Type of separator	: Highly absorbent Micro porous spun glass matrix.(AGM)
 Internal resistance (fully charged) approx. : 14mΩ at 27°C Max. discharge current (5 sec) : 135A Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	• Type of +ve & -ve plates	: Flat pasted.
 Max. discharge current (5 sec) : 135A Voltage ripple allowable : < 2% of the RMS Value <u>Applicable Standards</u>	• Internal resistance (fully charged) approx.	: $14m\Omega$ at $27^{\circ}C$
Voltage ripple allowable : < 2% of the RMS Value Applicable Standards	• Max. discharge current (5 sec)	: 135A
Applicable Standards	• Voltage ripple allowable	: < 2% of the RMS Value
	Applicable Standards	

• Batteries generally conforms to JIS 8702C International Standard

Constant current discharge rating - amps at 27° C

ECV/Duration	10min	15min	30min	60min	2hr	3hr	5hr	10hr	20hr
1.6	25.20	18.00	10.20	5.57	2.93	2.34	1.58	0.88	0.47
1.7	22.90	16.50	9.35	5.45	2.84	2.27	1.55	0.89	0.46
1.75	21.90	15.80	8.93	5.37	2.78	2.23	1.53	0.89	0.45
1.8	20.40	14.90	8.45	5.29	2.72	2.18	1.51	0.84	0.44

Constant power discharge rating - watts at 27°C

ECV/Duration	10min	15min	30min	60min	2hr	3hr	5hr	10hr	20hr
1.6	276.2	205.7	108.6	65.5	34.0	27.7	18.2	10.3	5.2
1.7	251.4	190.5	101.0	62.7	33.2	26.4	17.7	10.0	5.2
1.75	240.0	184.8	97.1	61.1	32.5	25.6	17.4	9.8	5.2
1.8	222.9	178.1	92.7	59.4	31.8	24.9	17.0	9.6	5.0

Note: 1. The above data are average values per battery and can be obtained within five charge/discharge cycles.
2. A tolerance of ±5% is applicable for the above constant power discharge and constant current discharge values.



: 12AL012



Battery Particulars

- Battery Rating
- Manufacturers Model No
- Volts/Module
- Module dimensions (L x W H)±2
- Module weight $\pm 5\%$
- Terminal Type

Charge Regime

- Stand by charging voltage
- Cyclic charging voltage
- Charging current Limit
- Temperature compensation

Product Details

- AH efficiency
- WH efficiency
- Self Discharge/Week @ 27°C
- · Recommended Max. period of st
- · Poly Material
- Type of separator
- Type of +ve & -ve plates
- Internal resistance (fully charged)
- Max. discharge current (5 sec)
- Voltage ripple allowable
- **Applicable Standards**
 - Batteries generally conforms to JIS 8702C International Standard

Constant current discharge rating - amps at 27° C

ECV/Duration	10min	15min	30min	60min	2hr	3hr	5hr	10hr	20hr
1.6	32.70	24.20	13.50	8.82	4.68	3.29	2.23	1.25	0.64
1.7	30.70	22.90	13.00	8.63	4.56	3.19	2.14	1.22	0.62
1.75	29.40	22.10	12.60	8.52	4.47	3.13	2.08	1.20	0.60
1.8	28.10	21.30	12.10	8.40	4.36	3.06	2.03	1.18	0.58

Constant power discharge rating - watts at 27°C

ECV/Duration	10min	15min	30min	60min	2hr	3hr	5hr	10hr	20hr
1.6	348.6	266.3	150.3	100.0	53.3	36.7	25.6	14.4	7.5
1.7	327.4	252.0	145.1	97.1	52.2	35.4	24.6	14.1	7.2
1.75	313.7	243.4	140.6	95.4	51.7	34.6	23.9	13.9	7.1
1.8	300.0	234.3	134.9	93.1	51.0	33.5	23.3	13.7	6.9

Note: 1. The above data are average values per battery and can be obtained within five charge/discharge cycles.

2. A tolerance of ±5% is applicable for the above constant power discharge and constant current discharge values.



	: 12 volts
2mm	: (151 X 98 X 99) mm Approx.
	: 3.75Kg. Approx.
	: F2 (Faston tab)
	: Batteries shall be charged in constant potential mode with current limit.
	: 13.5 to 13.8 volts per module @ 27°C
	: 14.4 to 15.0 Volts Per Cell @ 27°C
	: 1.2Amps minimum to 3.0Amps maximum
	: Stand by: -18mV/°C/battery, Cyclic: -30mV/°C/battery
	: Above 95%
	: Above 85%
	< 1% of rated capacity
torage	: 3 Months from the date of manufacturing and the batteries shall be Stored in covered area at 27°C
	: Acrylonitrile Butadiene Styrene (ABS)
	: Highly absorbent Micro porous spun glass matrix.(AGM)

: Maintenance Free Valve Regulated Lead Acid (MF-VRLA)

: 12V-12Ah to 10.5 EMV @ C20 at 27°C

- : Flat pasted.
- : 13.0mΩ at 27°C
- : 180A
- : < 2% of the RMS Value

12AL018

AMARON QUANTATM

The industrial segment SMF-VRLA (Valve Regulated Lead Acid) battery for UPS applications is built to perform.

In short, the lifeline to your UPS applications

AMARON QUANTA [™] is a product of fail- safe, fool-proof battery technology, produced and tested in our premier manufacturing facility. Built to the highest technical competence in its class, the QUANTA is an example of Amara Raja's commitment to bringing the best of technology to your table

It features several firsts for the battery industry like the unique Radgrid™

Nominal Voltage		12V
Rated Capacity		18Ah / C ₂₀ Hr / 1.75VPC / 27°C
	Length	181mm (7.12 in.)
Dimensions (±2mm)	Width	77mm (3.03 in.)
	Total Height	167mm (6.57 in.)
Weight (±5%)		5.52 Kg (12.16 lbs.)
Terminal Type		M5 Bolted
	16.80 Ah	(10hr, 1.68 A, 10.5 V/battery)
Capacity @ 27°C	15.40 Ah	(5hr, 3.08A , 10.2 V/battery)
	11.25 Ah	(1hr,11.25A,9.6V/battery)
Case Material		Acrylonitrile Butadiene Styrene (ABS)
Internal Resistance (IR)		Approx. 14 $m\Omega$ for a fully charged battery (27°C)
Max. discharge current (5 sec)		270 A
Operating Temp. range		-20°C to +60°C (50 to 60°C for shorter duration)
Nominal Operating Temp. range		27°C ± 3°C
	Charging Voltage	13.5 to 13.8V/battery
Standby use (27°C)	Charging Current	Max. 25% of rated capacity
	Temp. Compensation	± 18mV/battery/°C
0 (0740)	Charging Voltage	14.4 to 14.7V/battery
Cyclic use (27°C)	Charging Current	Max. 25% of rated capacity
	Temp. Compensation	± 30mV/battery/°C
Self-Discharge		< 4% per month at 27°C

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Self-Discharge

Specification

		Constan	t Current	discharge	rating (ar	nperes) @	27°C *		
ECV/ Time	10 min	15 min	30 min	60 min	2 hrs	3 hrs	5 hrs	10 hrs	20hrs
1.60	41.87	33.46	20.16	12.04	7.30	5.00	3.44	1.75	0.96
1.70	39.33	30.59	18.54	11.73	6.71	4.69	3.18	1.71	0.92
1.75	37.83	29.90	18.35	11.59	6.62	4.68	3.17	1.68	0.90

Constant Power discharge rating (watts per battery) @ 27°C *												
ECV/ Time	10 min	15 min	30 min	60 min	2 hrs	3 hrs	5 hrs	10 hrs	20 hrs			
1.60	498.80	386.33	213.31	141.20	85.14	56.92	38.18	21.78	11.68			
1.70	484.80	365.60	209.27	138.17	81.70	55.40	37.60	21.29	11.28			
1.75	462.50	352.30	205.03	136.25	78.20	54.20	36.70	21.14	11.09			

Note

The above data are average values per battery and can be obtained within five charge/discharge cycle
 A tolerance of ±5% is applicable for the above constant power discharge and constant current discharge values.
 Recommended to follow IEEE 44SS tandard for Battery sizing (In terms of Aging Margin, Design Margin) for Optimal Performance & Life.
 Considerable Voltage drop across cables, if any shall be considering during battery sizing.

AMARA RAJA Gotta be a better way

**Design improvement is a continuous process of Amara Raja. As a result, specifications are subject to change without prior notice





CAUTION

- Avoid short circuit
- Don't charge in a sealed container





THE LONG LIFE UPS BATTERY



AMARA RAJA BATTERIES LIMITED

CORPORATE OPERATIONS OFFICE:

Terminal A, 1-18/1/AMR/NR, Nanakramguda, Gachibowli, Hyderabad-500032, INDIA, <u>E-Mail: mktg@amararaja.com</u> www.amararajabatteries.com

REGISTERED OFFICE & Manufacturing Facility-1:

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UNIT-I,Karakambadi - 517520, Tirupati, Andhra Pradesh, INDIA, TEL: +91-877-2265000, FAX: +91-877-2285600 Manufacturing Facility-2

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UNIT-II, Nunegundlapalle, Bangarupalyam, Chittoor - 517416. Andhra Pradesh, INDIA

Features

- ✓ Proven AGM technology that ensures maintenance free characteristics
- ✓ Low self-discharge rates for extended storage periods
- ✓ Design float life of up to 6 years
- ✓ Clean and Sleek looks

Compliance

- ✓ Complies to JIS C 8702
- ✓ UL (UL-1989) & CE Certified
- ✓ Complies to IEC 61056
- ✓ Complies to IEC 60896

Shelf Life Characteristics



Battery Layout





Applications

- ✓ Small UPS System
- ✓ Emergency Lighting
- ✓ Fire Alarm System
- ✓ Safety, Surveillance & Security Systems
- ✓ Medical Equipment

Quality Standards

Manufactured in best-in-class facility certified to

- ✓ ISO 9001: 2015
- ✓ ISO 14001: 2015
- ✓ ISO 45001:2018

Temperature Effect on Capacity









ARBL/IAE/AQ/18Ah; May'2022, Rev-00

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12AL026 12ALZ026

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It features several firsts for the battery industry like the unique Radgrid[™]



All dimensions are in mm

Nominal Voltage		12V
Rated Capacity		26Ah / C ₂₀ Hr / 1.75VPC / 27°C
	Length	167 mm (6.57 in.)
Dimensions (±2mm)	Width	126 mm (4.96 in.)
	Total Height	175 mm (6.89 in.)
Weight (±5%)		8.4 Kg (18.52 lbs)
Terminal Type		M5 x 20 mm Bolted
	24.20 Ah	(10hr, 2.42 A, 10.5 V/battery)
Capacity @ 27°C	22.30 Ah	(5hr, 4.46 A, 10.2 V/battery)
	16.88 Ah	(1hr, 16.88 A, 9.6V /battery)
	40°C (104°F)	110%
Capacity affected	27°C (80.6°F)	100%
(Temperature at C20 hr rate)	0°C (32°F)	80%
	-15°C (5°F)	60%
Case Material	Standard	PPCP (12AL026)
	FR Version	UL 94-V0 (12ALZ026)
Internal Resistance (IR)	Approx. 9.8 mΩ	for a fully charged battery (27°C)
Short Circuit Current (As per IEC)		1278 A
Operating Temp. range	-20°C to +60°	C (50 to 60°C for shorter duration)
Nominal Operating Temp. range		$27^{\circ}C \pm 3^{\circ}C$
	Charging Voltage	13.5 V/battery
Standby use (2/°C)	Charging Current	Max. 25% of rated capacity
	Temp. Compensation	$\pm 18 mV/battery/^{\circ}C$

Charging Voltage

Charging Current

Temp. Compensation

Cyclic use (27°C)

Specification

Self-Discharge

Constant Power Discharge Rating (Watts Per Battery) @ 27°C *											
ECV/ Time	10min	15min	20min	30 min	60min	2hrs	3hrs	5hrs	8hrs	10hrs	20hrs
1.60	716	557	456	340	211	120	82.0	56.0	36.0	31.0	15.0
1.65	712	548	448	330	207	119	81.0	55.0	35.5	30.5	14.5
1.70	707	538	440	320	202	118	80.0	54.0	35.0	30.0	14.0
1.75	673	518	424	311	198	117	79.5	53.5	34.5	29.5	13.5
1.80	638	498	408	302	193	116	79.0	53.0	34.0	29.0	13.0

	Constant Current Discharge Rating (Amperes) @ 27°C *											
ECV/ Time	10min	15min	20min	30min	60min	2 hrs	3 hrs	5 hrs	8hrs	10 hrs	20 hrs	
1.60	58.72	46.93	37.25	28.26	16.88	10.24	7.00	4.82	2.99	2.53	1.39	
1.65	56.93	44.92	35.89	27.13	16.67	9.83	6.79	4.64	2.92	2.50	1.36	
1.70	55.14	42.90	34.53	26.00	16.46	9.41	6.58	4.46	2.86	2.47	1.32	
1.75	53.06	41.94	34.21	25.74	16.25	9.29	6.57	4.44	2.84	2.42	1.30	
1.80	52.00	41.27	33.33	25.49	15.55	9.22	6.53	4.41	2.83	2.41	1.29	

The above data are average values per battery and can be obtained within five charge/discharge cycle

A tolerance of ±5% is applicable for the above constant power discharge and constant current discharge values.
 Recommended to follow IEEE 485 Standard for Battery sizing (In terms of Aging Margin, Design Margin) for Optimal Performance & Life.
 Considerable Voltage drop across cables, if any shall be considering during battery sizing.





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13.8 V/battery

 \pm 30mV/battery/°C

Max. 25% of rated capacity

<4% per month at 27°C





CAUTION

- Avoid short circuit
- Don't charge in a sealed container





THE LONG LIFE UPS BATTERY



Performance

A clutch of design features ensures that AMARON QUANTATM

batteries perform predictably and reliably every time

- Proven AGM technology that ensures maintenance free characteristics
- A unique heavy duty corrosion-resistant alloy for positive grids to increase cyclic life in tropical
- ✓ Radgrid[™] profile provides lower internal resistance and superior high-discharge performance
- ✓ Instacharge[™] a patented paste recipe for excellent charge acceptance
- Low self-discharge rates for extended storage periods
- Design Float life of upto 10 years
- Clean and Sleek looks

Discharge Characteristics





Compliance

- ✓ JIS C 8702 Certified
- ✓ UL (UL-1989) & CE Certified
- ✓ Complies to IEC61056 & EUROBAT
- ✓ Complies to IS 16220
- ✓ Manufactured in ISO 9001, ISO 14001, ISO45001:2018 certified facilities

Applications

- ✓ Data Centers
- ✓ Banks & Financial Markets
- ✓ Network Operations Centers
- ✓ Industrial Process Control Facilities
- ✓ Safety, Surveillance & Security Systems
- ✓ Semiconductor Manufacturing
- ✓ Power Generation Plants
- ✓ Hospital & Testing laboratories

Temperature Effect on Capacity



Float Service Life vs. Temperature



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ARBL/IAE/AQ/26Ah; May'2022, Rev-00

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