



VISION LITHIUM ION PRISMATIC BATTERY

Vision Technology delivers safe lithium phosphate energy storage solutions in standard lead-acid battery sizes for a wide variety of applications.

www.vision-batt.com

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VISION GROUP
Shenzhen Center Power
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GREEN OUR EARTH POWER YOUR VISION



VISION GROUP



Vision Group is one of the largest manufacturers of batteries in the world. Our products are classified into different categories: Valve-Regulated Lead Acid Battery, Lithium-ion Battery, Hybrid Battery and so on. The VRLA battery includes AGM series, Deep Cycle series, Pure Lead series and Gel series, The Lithium-ion Battery covers Lithium cobalt oxide series, Lithium manganese oxide series and Lithium iron phosphate series.

Vision Group was founded in 1994 and the headquarter is in Shenzhen. We are one of the largest and the first one to develop and commercialize the VRLA Battery with brand name VISION around the world. With 20 years of development, Vision has three industrial location in Shenzhen, Hubei Province and Vietnam, which cover the area of 260,000m². Today, we have more than 3,500 employees; the total production capacity is more than 3,000,000 KVAH per year.

Vision Group is committed to keep the high quality of products and

provide perfect service, to be always able to meet the customer's needs. Vision Group has a powerful global sales network. Currently, its sales and service engineers are active in more than 100 countries.

We always stick to the principle of "technology and value-added service are the crucial core of VISION", and continually develop to become world-class enterprise.

As one of the leading industrial battery manufacturers, we are keeping quality and environment protection first and foremost in our minds. With a proven track record of this dedication, to protect both the earth and our employees for years, has propelled us to be the industry leader in environmental protection while still maintaining the highest quality products on the market. With the recertification of Chinese Environment Ministry to Chinese battery industry in 2011, Vision Group has become the best company on the environmental protection in South of China.

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V-LFP 12V Series

The V-LFP 12V Series Energy Storage Systems are a family of 12V battery modules and accessories. The 12V family is designed as a drop-in replacement for similar size lead-acid batteries offering twice the run-time but nearly half the weight. The 12V series is designed for lower voltage, lower power and longer run-time applications. They are built with Vision LFP Technology that offers outstanding intrinsic safety and excellent float and cycle life resulting in low cost of ownership.

General Features

- Built-in automatic protection for over-charge, over-discharge, and over temperature
- Maintenance free
- Internal cell balancing
- Communication of monitored data via Battery Management System (BMS)
- Thousands of cycles, 100%DOD, under normal conditions
- Can be charged using most standard lead-acid charges (set for AGM/GEL cells)
- Flame retardant plastics

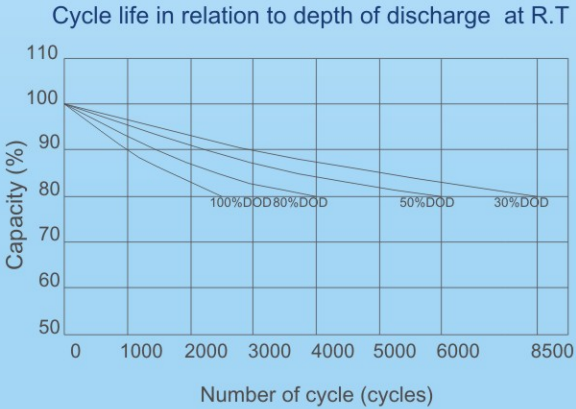
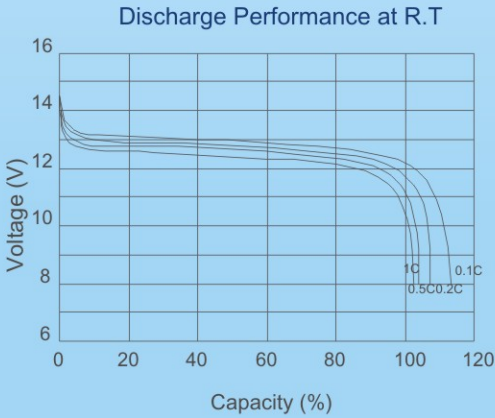
Applications

- UPS
- Solar power
- wind powered systems
- Golf Cart
- Cable TV System



V-LFP 12V Series

Type	Voltage (V)	Nominal Capacity(Ah)	Energy (Wh)	Max.current (A)	Weitht (Kg)	Dimension			
						L(mm)	W(mm)	H(mm)	TH(mm)
V-LFP 12V3Ah	12.8	3	38.4	10	0.50	90	70	101	107
V-LFP 12V4.5Ah	12.8	4.5	57.6	10	0.60	90	70	101	107
V-LFP 12V6Ah	12.8	6	76.8	10	0.80	90	70	101	107
V-LFP 12V7.5Ah	12.8	7.5	96	20	1.25	151	65	94	100
V-LFP 12V8.5Ah	12.8	8.5	108.8	20	1.33	151	65	94	100
V-LFP 12V9Ah	12.8	9	115.2	20	1.42	151	65	94	100
V-LFP 12V10Ah	12.8	10	128	20	1.50	151	65	94	100
V-LFP 12V12Ah	12.8	12	153.6	20	1.60	151	98	95	101
V-LFP 12V15Ah	12.8	15	192	20	1.90	151	98	95	101
V-LFP 12V15Ah	12.8	15	192	30	2.65	181	77	167	167
V-LFP 12V17Ah	12.8	17	217.6	30	2.82	181	77	167	167
V-LFP 12V18Ah	12.8	18	230.4	30	3.00	181	77	167	167
V-LFP 12V20Ah	12.8	20	256	30	3.22	181	77	167	167
V-LFP 12V25Ah	12.8	25	320	30	4.00	166	175	125	125
V-LFP 12V30Ah	12.8	30	384	30	4.55	166	175	125	125
V-LFP 12V40Ah	12.8	40	512	30	6.01	195	130	155	160
V-LFP 12V40Ah	12.8	40	512	40	6.40	202	144	175	175
V-LFP 12V50Ah	12.8	50	640	50	7.00	239	132	205	210
V-LFP 12V55Ah	12.8	55	704	30	7.50	239	132	205	210
V-LFP 12V60Ah	12.8	60	768	30	9.50	239	132	205	210
V-LFP 12V60Ah	12.8	60	768	50	10.20	258	166	210	210
V-LFP 12V70Ah	12.8	70	896	30	11.30	258	166	210	210
V-LFP 12V80Ah	12.8	80	1024	30	12.8	258	166	210	210
V-LFP 12V80Ah	12.8	80	1024	50	12.8	306	168	210	210
V-LFP 12V90Ah	12.8	90	1152	50	14	306	168	210	210
V-LFP 12V98Ah	12.8	98	1254.4	50	14.5	328.5	172	221	221
V-LFP 12V100Ah	12.8	100	1280	50	15.5	395	110	285.5	285.5
V-LFP 12V150Ah	12.8	150	1920	50	22.5	436	108.2	317	317
V-LFP 12V240Ah	12.8	240	3072	50	34.2	520.5	269	203.5	203.5



V-LFP 24V Series

The V-LFP 24V Series Energy Storage Systems are a family of 24V battery modules and accessories. The 24V family is designed as a drop-in replacement for similar size lead-acid batteries offering twice the run-time but nearly half the weight. The 24V series is designed for lower voltage, lower power and longer run-time applications. They are built with Vision LFP Technology that offers outstanding intrinsic safety and excellent float and cycle life resulting in low cost of ownership.

General Features

- Communication of monitored data via Battery Management System (BMS)
- Internal cell balancing
- Flame retardant plastics
- Built-in automatic protection for over-charge, over-discharge, and over temperature
- Maintenance free
- Thousands of cycles, 100%DOD, under normal conditions
- Can be charged using most standard lead-acid charges (set for AGM/GEL cells)



Applications

- Emergency lighting systems
- Solar energy
- wind energy systems
- Cable TV System
- Golf Cart

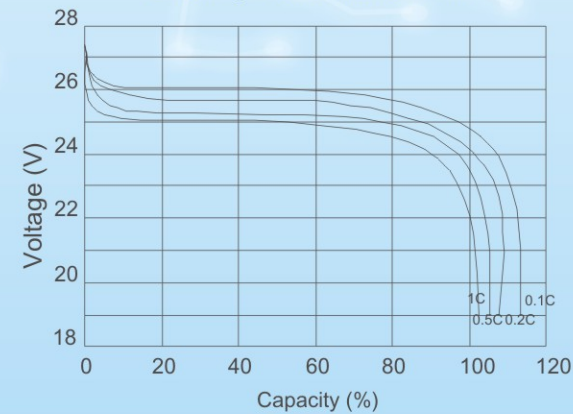


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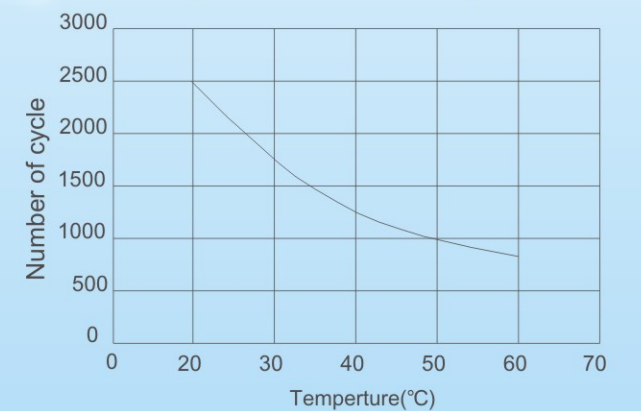
V-LFP 24V Series

Type	Voltage (V)	Nominal Capacity(Ah)	Energy (Wh)	Max.current (A)	Weitht (Kg)	Dimension			
						L(mm)	W(mm)	H(mm)	TH(mm)
V-LFP 24V7.5Ah	25.6	7.5	192	30	1.90	151	98	95	101
V-LFP 24V10Ah	25.6	10	256	30	3.20	181	77	167	167
V-LFP 24V20Ah	25.6	20	512	30	6.40	195	130	155	160
V-LFP 24V30Ah	25.6	30	768	30	9.10	239	132	205	210
V-LFP 24V40Ah	25.6	40	1024	30	12.00	258	166	206	215
V-LFP 24V50Ah	25.6	50	1280	30	16.00	395	110	285.5	285.5
V-LFP 24V60Ah	25.6	60	1536	30	17.50	436	108.2	317	317
V-LFP 24V70Ah	25.6	70	1792	30	20.60	436	108.2	317	317
V-LFP 24V100Ah	25.6	100	2560	30	28.2	520.5	269	203.5	203.5
V-LFP 24V120Ah	25.6	120	3072	30	34.3	520.5	269	203.5	203.5

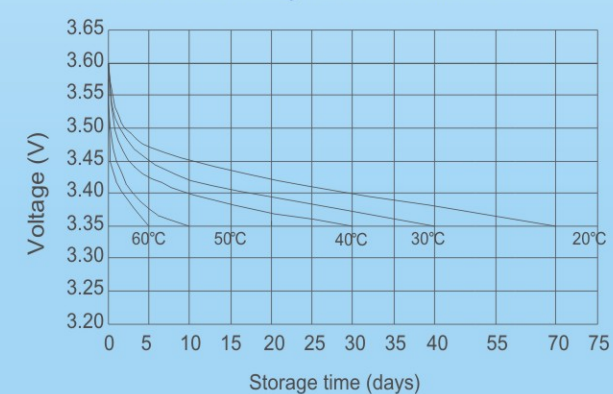
Discharge Performance at R.T



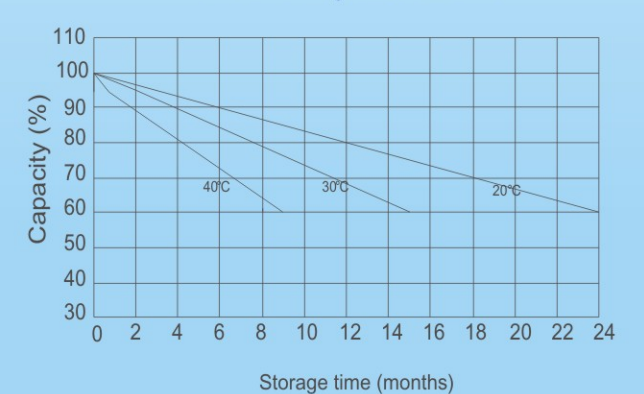
Cycle life in relation to Temperature



V-LFP 3.2V Voltage & Time In Different Tem.



Self-discharge characteristic



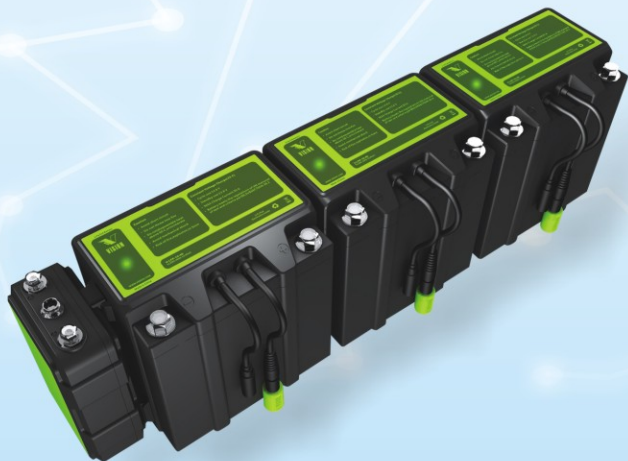
V-LFP 12V Series Model

—using independently

The V-LFP 12V 40Ah Energy Storage Systems are a family of 12V modules and accessories which can be in series or parallel connected. The 12V family is designed as a drop-in replacement for similar size lead-acid batteries offering twice the run-time but nearly half the weight. The 12V series is designed for lower voltage, lower power and longer run-time applications. They are built with Vision LFP Technology that offers outstanding intrinsic safety and excellent float and cycle life resulting in low cost of ownership.

General Features

- Built-in automatic protection for over-charge, over-discharge and over-temperature conditions
- Independent control system can load bigger current
- Balance will work in the whole system
- Can be used in series or parallels
- Simple connection and fitted
- Thousands of cycles,100% DOD, under normal conditions



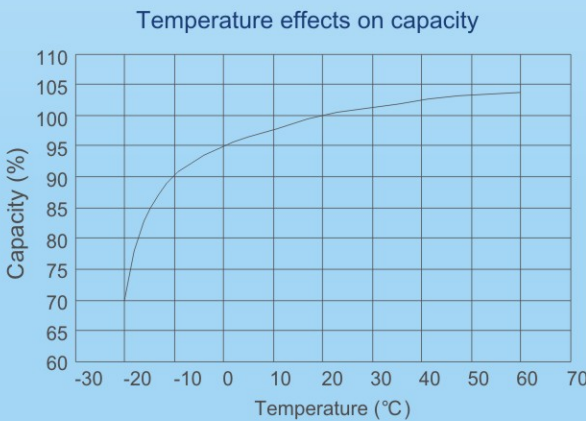
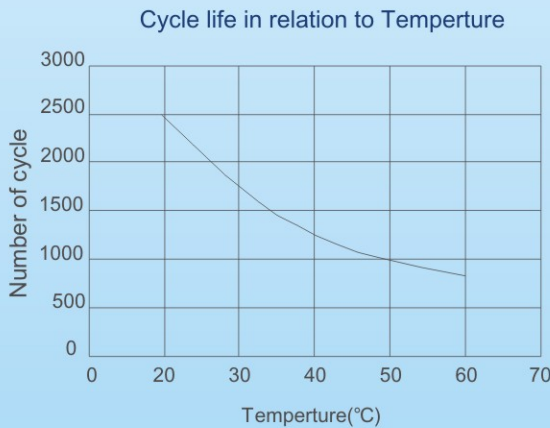
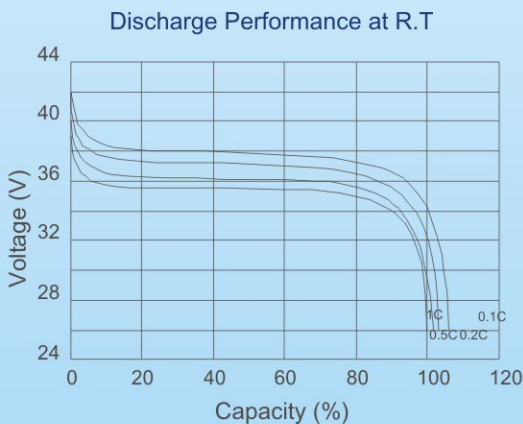
Applications

- High voltage UPS/EPS
- Golf Scooter/Touring Scooter
- Energy stored station
- Telecom system
- Railway system



V-LFP 12V Series

Specifications		V-LFP 12V
Voltage		12.8V
Nominal Capacity (25°C , 1C)		40Ah
Weight (Approximate)		6.4Kg
Cell		Prismatic
Dimension.Terminals L*W*H		202*144*184mm
Specific Energy		80 WH/kg
Standard Discharge 25°C	Max. cont. current	40A
	Max.10sec.pulse	60A
	Cut-off voltage	10V
Standard charge	Cycle Voltage	14.4V
	Float Voltage	13.8V
	Style	CC/CV
	Recommended	20A
	Charge Time	2.5h
Using temperature		-20~60°C
Storage temperature		-30~50°C
DC internal resistance (max)		<60mΩ



V-LFP 48V Series

Communication Equipments

The V-LFP48 series batteries connected in parallel with communication equipment power rectifier module DC output, when the AC 220V normal power supply, power rectifier module work to the communication device power supply and battery pack charging; When the AC power supply fails, power rectifier module to stop power supply, the battery service for communication equipment un-interruptible power supply, to ensure the communication equipment run normally; when the AC power is switched on again, power rectifier module for communication equipment power supply recovery while charging the battery group.

General Features

- Comprehensive communication
- Parallel operation, for scalability
- State of charge and state of health indication
- Built-in battery control for efficient operation
- Redundant safety
- Compatible with standard telecom rectifiers



V-LFP 48V Series

Type	Voltage (V)	Nominal Capacity(Ah)	Energy (Wh)	Max.current (A)	Weitht (Kg)	Dimension		
						L(mm)	W(mm)	H(mm)
V-LFP 48V10Ah	48	10	500	20	8.4	442	285	44(1U)
V-LFP 48V20Ah	48	20	1000	40	15.0	442	285	88(2U)
V-LFP 48V30Ah	48	30	1500	40	21.0	442	360	88(2U)
V-LFP 48V40Ah	48	40	2000	60	27.0	442	325	132(3U)
V-LFP 48V50Ah	48	50	2500	60	33.5	442	400	132(3U)
V-LFP 48V60Ah	48	60	3000	60	39.0	442	460	132(3U)
V-LFP 48V80Ah	48	80	4000	60	52.0	442	450	177(4U)
V-LFP 48V100Ah	48	100	5000	60	62.0	442	520	177(4U)

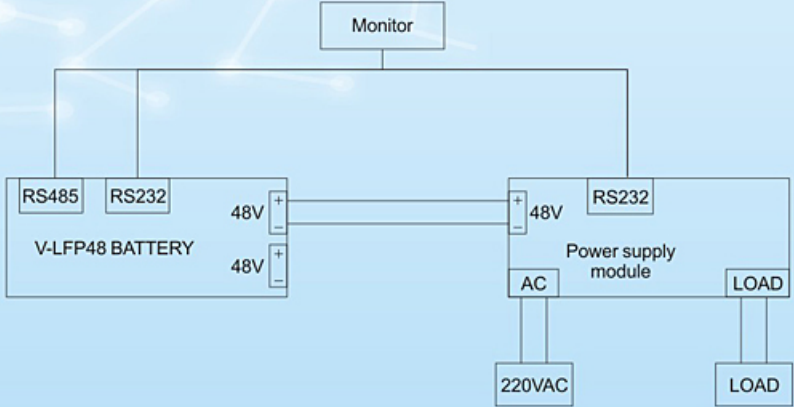


Figure 1 Connecting structure of the battery systems

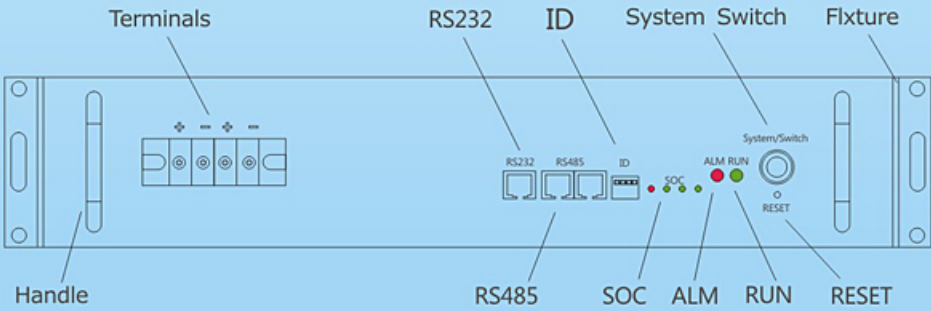


Figure 2 Panel of V-LFP 48V series battery systems

V-LFP Tubular Battery Series

Vision LFP 3.2V tubular Fe cell is ideally suited for applications requiring high discharge, continuous or pulse power; high energy density; moderate re-charge; low temperature performance; long cycle life and calendar life; low heat generation; and higher levels of safety. The products performance is very stable, reliable and simple assembly.

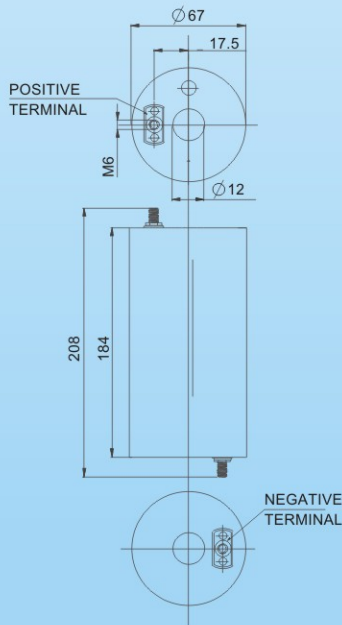
General Features

- Good heat dissipation: internal and external cooling
- Non-toxic, extremely stable cathode material
- Excellent power density and energy density
- Maintenance free battery and no memory effect
- Operates in any orientation
- Low self-discharge
- Electrochemistry stable under most abuse conditions
- Excellent low temperature performance
- long cycle life and service life



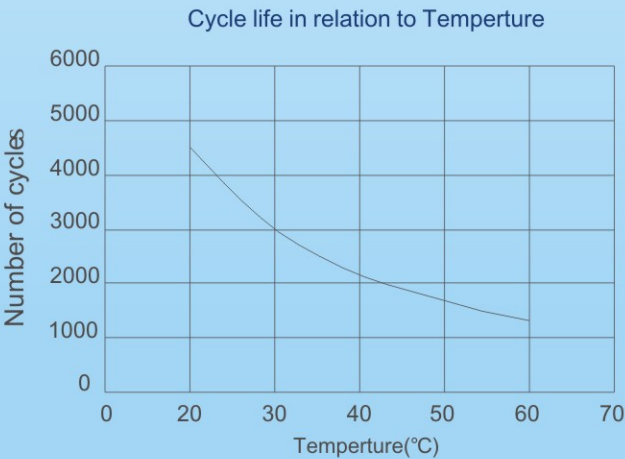
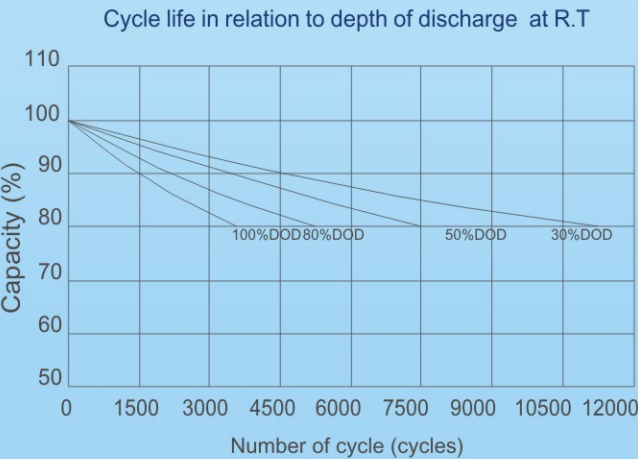
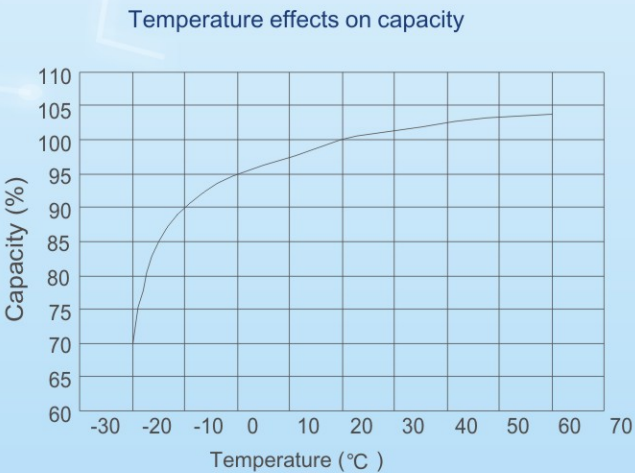
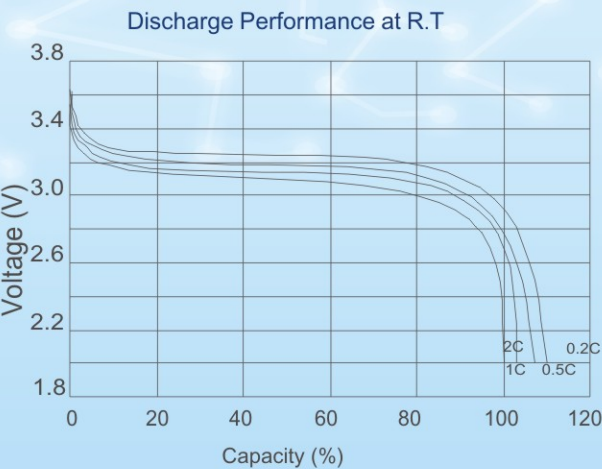
Applications

- Hybrid Electric Vehicles
- Telecom
- Low Speed Electric Vehicles
- Pure Electric Vehicle
- Un-interruptible Power Supply
- Energy Storage



Tubular Battery Series

Type	Voltage (V)	Nominal Capacity(Ah)	Energy (Wh)	Max.current (A)	Weitht (Kg)	Dimension	
						D(mm)	H(mm)
IFT94130	3.2	20	64	300	0.80	94	130
IFT67208	3.2	50	160	150	1.30	67	208
IFT85248	3.2	75	240	225	2.00	85	248
IFT94220	3.2	80	256	240	2.10	94	220
IFT94260	3.2	100	320	300	2.60	94	260



V-LFP Starting Series

—Vehicle Starter Storage Battery

The V-LFP 12V automobile starter storage batteries are a family of 12V battery modules and accessories. The 12V family is designed as a drop-in replacement for similar size lead-acid batteries offering twice the run time but nearly half the weight. The 12V series is designed for lower voltage, lower power and longer run-time application. They are built with Vision LFP Technology that offers outstanding safety, excellent float and cycle life resulting in lower cost of ownership.

General Features

- Built-in automatic protection for over-charge, over-discharge, and exceeding temperature conditions
- Maintenance free
- Internal cell balancing
- Communication of monitored data via Battery Management System (BMS)
- Thousands of cycles, 100%DOD, under normal conditions
- Can be charged using most standard lead-acid charges (set for AGM/GEL cells)
- Flame retardant plastics

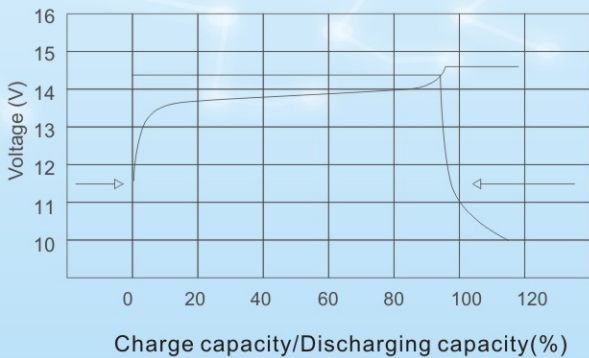


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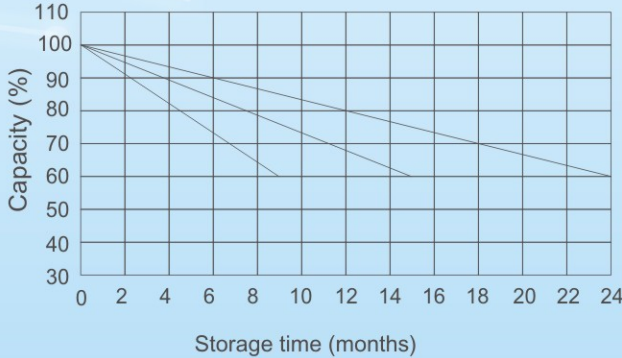
Vehicle Starter Series

Type	Voltage (V)	Nominal Capacity(Ah)	Max.Starting current(A)	Weitht (Kg)	Dimension		
					L(mm)	W(mm)	H(mm)
VM01	12.8	1	70	0.30	42	44	84
VM02	12.8	2	140	0.70	150	85	95
VM03	12.8	2	140	0.75	113	70	130
VM04	12.8	2	140	0.76	120	61	131
VM05	12.8	3	200	0.91	93	73	110
VM06	12.8	8	500	1.50	151	98	101

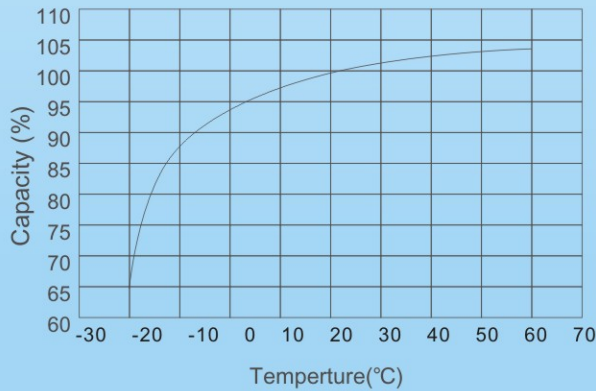
Constant voltage charging characteristic



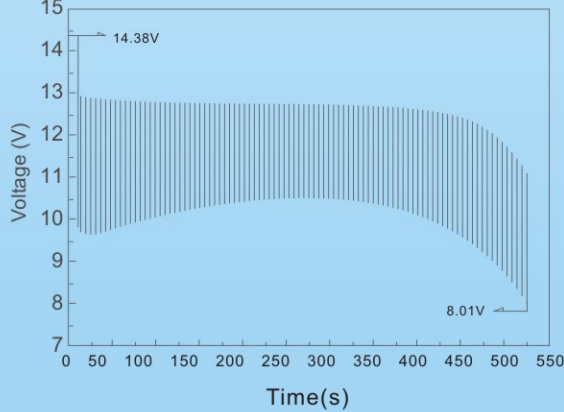
Self-discharge characteristic



Temperature effects on capacity



LFP 12V2Ah Pluse Discharge Performance (50A discharge 5S, resting 10S, 25?,cycle)



V-LFP 12V 40Ah

—customer-specific

The V-LFP 12V 40Ah Energy Storage System is a 12.8V lithium phosphate energy storage with BMS. The battery is designed as a drop-in replacement for similar sized lead-acid batteries offering twice the run-time but nearly half the weight. The 12V40Ah is designed for lower voltage, lower power and longer run-time applications. They are built with Vision LFP Technology that offers outstanding intrinsic safety and excellent float and cycle life resulting in low cost of ownership.

General Features

- Long cycle life, more than 2000 cycles at 80% DOD.
- Only 40% of the weight of comparable capacity SLA battery.
- Built-in automatic protection for charge,discharge and temperature conditions.
- Internal cell balancing, to ensure that the consistency of battery capacity .
- Can be recharged quickly in 2.3hours.
- Can be recharged using most standard lead-acid chargers (set for AGM/GEL cells).
- Communication of monitored data via SMBUS of BMS.



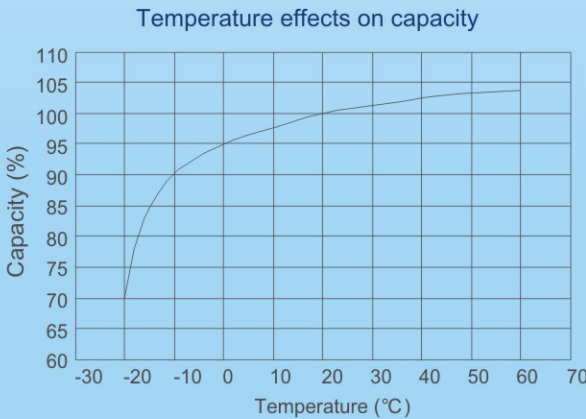
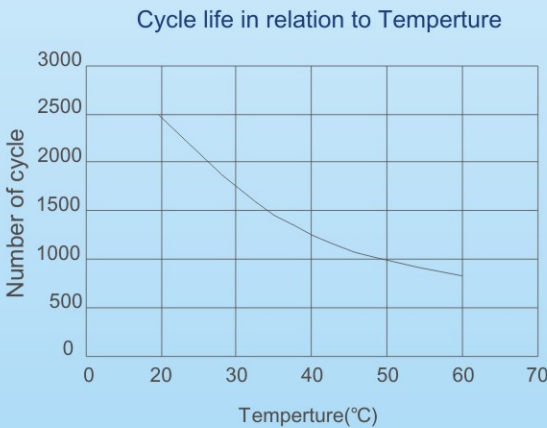
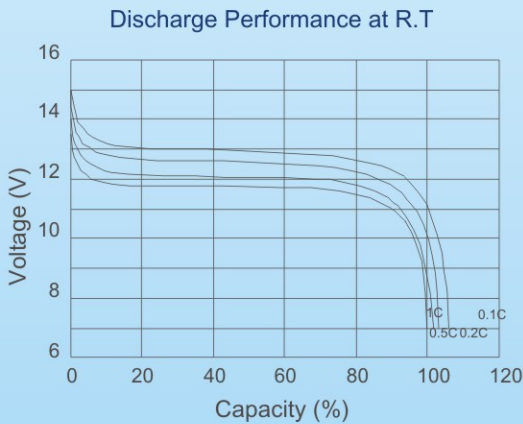
Applications

- Medical carts
- Canmobile X-ray and imaging
- motorized wheel chairs
- emergency power



V-LFP 12V40Ah Series

Specifications		V-LFP 12V40Ah
Standard Voltage		12.8V
Nominal Capacity (25°C , 1C)		40Ah
Weight (Approximate)		6.4 Kg
Dimension L*W*H		202*144*184mm
Cycle Life (25°C , 0.5C, 80%DOD)		≥2000
Specific Energy		80WH/kg
Standard Discharge 25°C	Max.cont.current	30A
	Max.10sec.pulse	40A
	Cut-off voltage	10.5V
Standard charge	Cycle Voltage	14.4V
	Float Voltage	13.8V
	Style	CC/CV
	Recommended	20A
	Charge Time	2.5h
Using temperature		SMBUS
Storage temperature		-20~60°C
DC internal resistance (max)		-30~50°C



V-LFP 48V 50Ah

Communication Equipments

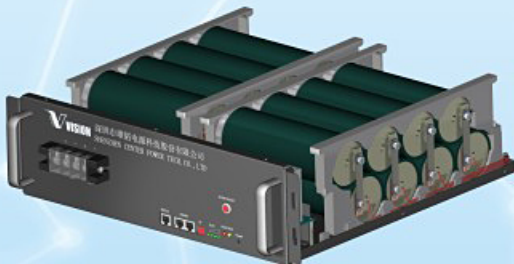
The V-LFP48 series batteries connected in parallel with communication equipment power rectifier module DC output, when the AC 220V normal power supply, power rectifier module work to the communication device power supply and battery pack charging; When the AC power supply fails, power rectifier module to stop power supply, the battery service for communication equipment un-interruptible power supply, to ensure the communication equipment run normally; when the AC power is switched on again, power rectifier module for communication equipment power supply recovery while charging the battery group.

General Features

- Frame type design, EISI standard, compatible with standard equipment
- Comprehensive communication
- Parallel operation, for scalability
- State of charge and state of health indication
- Built-in battery control for efficient operation
- Redundant safety
- Compatible with standard telecom rectifiers

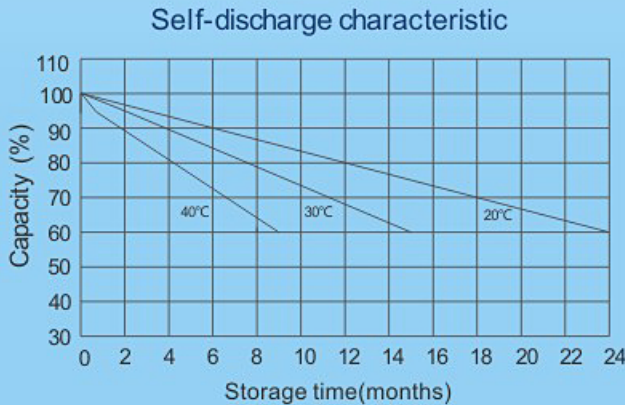
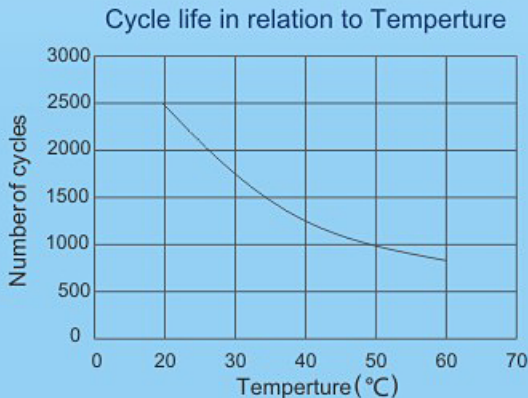
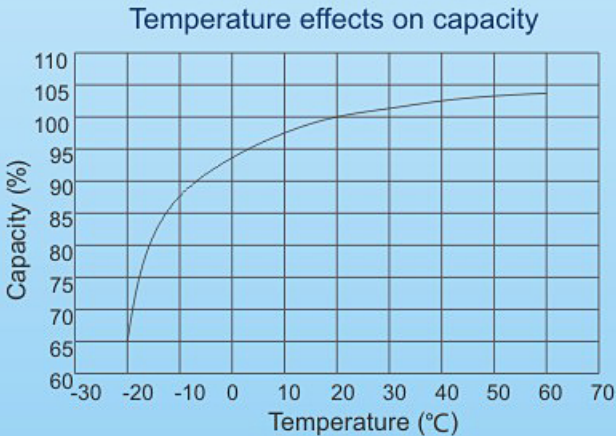
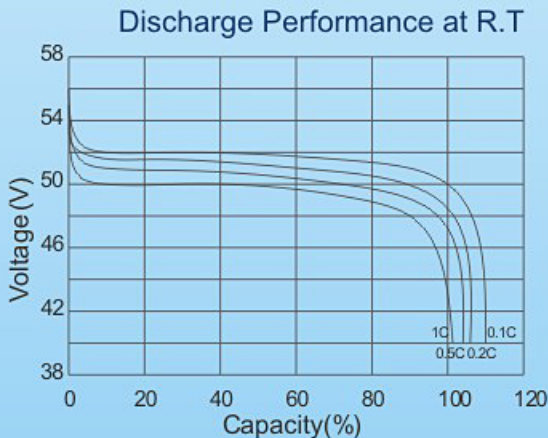
Advanced lithium-ion battery technology

- Good heat dissipation performance, the use of internal and external hole heat dissipation
- Good energy density and power density
- Long cycle life
- Can be used any direction



V-LFP 48V50Ah

Specifications		V-LFP 48V50Ah
Standard Voltage		48V
Nominal Capacity (25°C , 0.5C)		50Ah
Nominal energy (25°C , 0.5C)		2400Wh
Weight (Approximate)		35 Kg
Dimension L*W*H		442*435*132mm
Cycle Life (25°C , 0.5C, 80%DOD)		≥2000
Standard Discharge 25°C	Max.cont.current	60A
	Cut-off voltage	40V
Standard Charge 25°C	Cycle Voltage	54.0~56.5V
	Float Voltage	51.0~54.0 V
	Style	CC/CV
	Recommended Charge Time	25A 2.5h
Communication Protocol		SMBUS
Using Temperature		-20~60°C
Storage Temperature		-30~50°C



V-LFP 48V75Ah

Communication Equipments

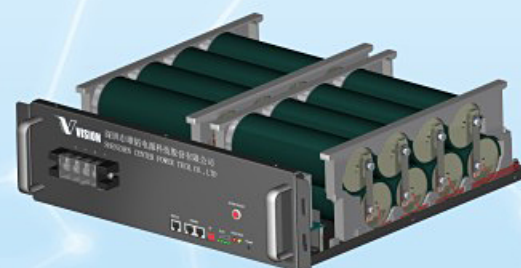
The V-LFP48 series batteries connected in parallel with communication equipment power rectifier module DC output, when the AC 220V normal power supply, power rectifier module work to the communication device power supply and battery pack charging; When the AC power supply fails, power rectifier module to stop power supply, the battery service for communication equipment un-interruptible power supply, to ensure the communication equipment run normally; when the AC power is switched on again, power rectifier module for communication equipment power supply recovery while charging the battery group.

General Features

- Frame type design, EISI standard, compatible with standard equipment
- Comprehensive communication
- Parallel operation, for scalability
- State of charge and state of health indication
- Built-in battery control for efficient operation
- Redundant safety
- Compatible with standard telecom rectifiers

Advanced lithium-ion battery technology

- Good heat dissipation performance, the use of internal and external hole heat dissipation
- Good energy density and power density
- Long cycle life
- Can be used any direction



V-LFP 48V75Ah

Specifications		V-LFP 48V75Ah
Standard Voltage		48V
Nominal Capacity (25°C , 0.5C)		75Ah
Nominal energy (25°C , 0.5C)		3600Wh
Weight (Approximate)		47Kg
Dimension L*W*H		442*540*177mm
Cycle Life (25°C , 0.5C, 80%DOD)		≥2000
Standard Discharge 25°C	Max.cont.current	60A
	Cut-off voltage	40V
Standard Charge 25°C	Cycle Voltage	54.0~56.5V
	Float Voltage	51.0~54.0 V
	Style	CC/CV
	Recommended Charge Time	15A 5.5h
Communication Protocol		SMBUS
Using Temperature		-20~60°C
Storage Temperature		-30~50°C

