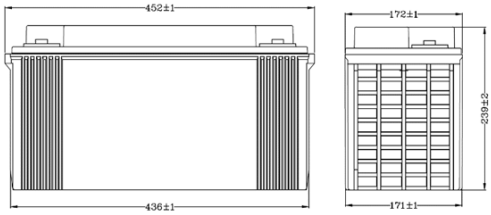
EXIDE POWERSAFE PLUS

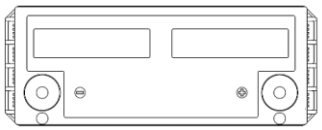
EXIDE

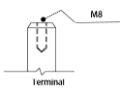
Product Technical Datasheet

EP 120-12

Product Outline







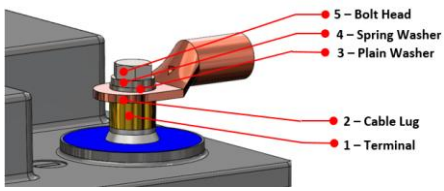
Product Details

Battery Type	EP 120-12
Nominal voltage (V)	12
Rated Capacity @25°C 20 hour (up to 10.5V)	120
Dimension (L x W x H) (mm) ±3	452 x 172 x 239
Weight (kg) ± 5%	38
Internal Resistance (mΩ) @ 25°C Fully Charged Condition	4.5 max
Short Circuit Current (A)	2619
Ah Efficiency	>90%
Wh Efficiency	>80%
Plastic Material	PPCP-FR
Type of +ve & -ve plate	Flat Pasted
Terminal Torque (N-m)	12.3
Terminal Type	M8-Bolt
Operating Temperature Range	0°C to 45°C
Self-Discharge/Month @ 27°C	<3% of Rated Capacity

Features

- Non-spillable sealed maintenance free VRLA battery
- Absorptive Glass Mat Technology.
- Long Service Life
- Low Self-discharge
- Excellent Charge Retention.
- Superior High-Rate Discharge
- Internal Oxygen Recombination
- Design Float life of 10 years

Terminal Connection Sequence



Constant Power Discharge Rating (W) at 25°C

EMV	10 min	15 min	20 min	30 min	60 min	120 min	180 min	300 min	480 min	600 min
10.2	2899	2338	1900	1440	869	528	382	254	174	144
10.5	2844	2255	1844	1395	843	520	367	248	171	143
10.8	2788	2172	1789	1368	819	511	354	242	167	142

Constant Current Discharge Rating (A) at 25°C

EMV	10 min	15 min	20 min	30 min	60 min	120 min	180 min	300 min	480 min	600 min
10.2	276	216	180	138	80.4	48	34.8	22.8	15.6	13
10.5	257	207	174	135	78.6	45.5	33.6	21.5	14.3	11.8
10.8	240	198	168	132	76.8	43.2	32.4	20.4	13.2	10.8

** Please note, the above discharge values are average and can be achieved within 5 charge/discharge cycles

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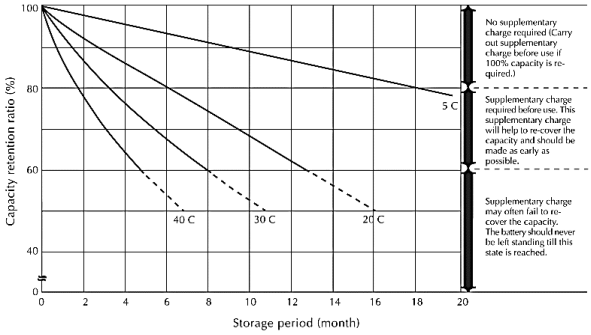
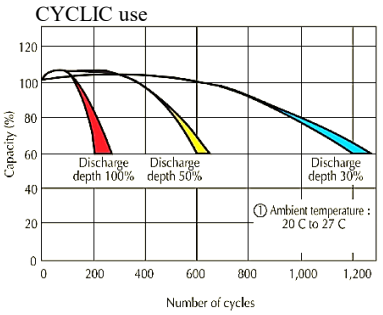
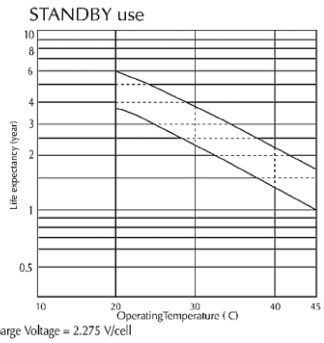
Capacity Retention & Supplementary Charge



Supplementary Charge Guideline for 3 -6 Months of Storage					
Charging Method	**Voltage Setting**	**Current Setting**	**Duration for upto 3 months storage**	**Duration for upto 6 months storage**	**Temperature**
Constant Voltage	14.5V per battery	15% limit current	6 hours	12 hours	5°C-35°C
Constant Current	NA	5% Current	6 hours	12 hours	

Service Life Characteristics

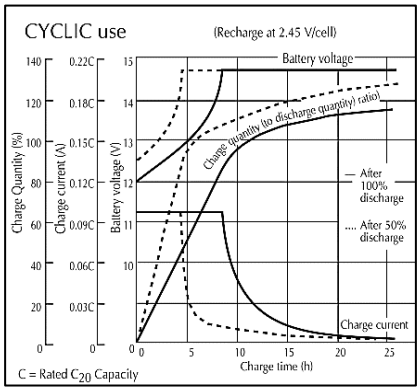


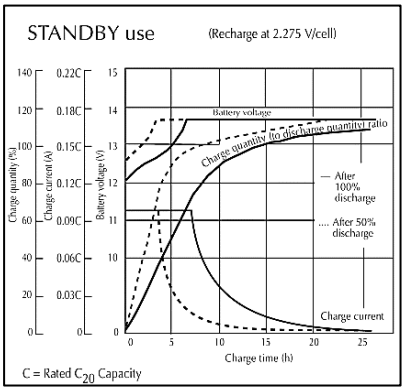


Charge Characteristics

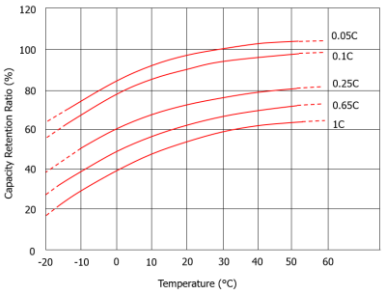
Recharge voltages: Batteries to be charged in CC-CV mode only	
Recharge Voltage Type	**Voltage settings per 12 V unit for ambient temperature 20°C-30°C**
Float	13.7 ± 0.1 V
Boost	14.1 ± 0.1 V
Cycle	14.7 ± 0.1 V
Temperature compensation (Ref. 25°C)	-18 mV/ °C increase / 12 V unit

Current setting	
Maximum	0.3C A
Minimum	0.1C A
Recommended	0.15C A

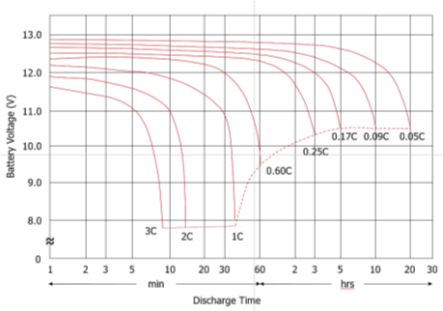




Effect of Temperature on Capacity



Discharge Characteristics



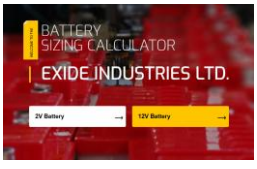
Gas Evolution & Heat Generation

Considering the wide variation in the operating condition, in a worst-case scenario,

Hydrogen gas evolved per hour per battery may be estimated as = 0.000648 m^3 at NTP

Heat Generation per battery = 3.2 W

Sizing Calculator – Online



Installation – Best Practices