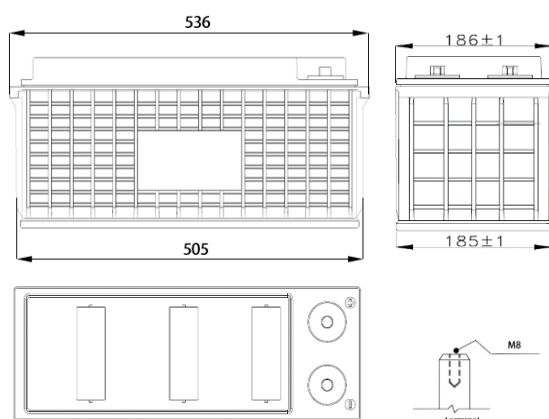


Product Outline



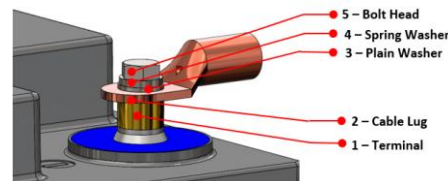
Features

- ❖ Non-spillable sealed maintenance free VRLA battery
- ❖ Absorbent 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

Product Details

Battery Type	EP 160-12
Nominal voltage (V)	12
Rated Capacity @25°C 20 hour (up to 10.5V)	160
Dimension (L x W x H) (mm) ±3	536 x 186 x 250
Weight (kg) ± 5%	49.5
Internal Resistance (mΩ) @ 25°C Fully Charged Condition	4 max
Short Circuit Current (A)	3432
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

Terminal Connection Sequence



Constant Power Discharge Rating (W) at 25°C

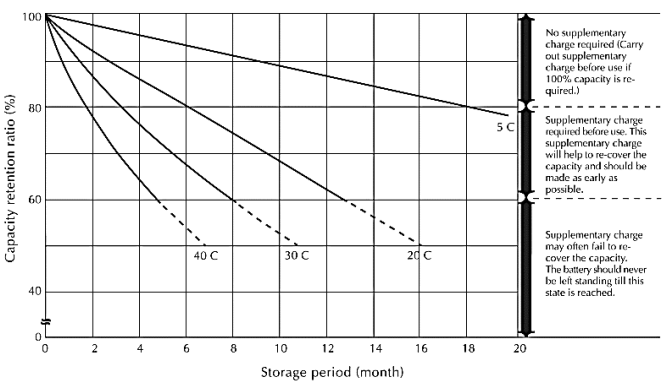
EMV	10 min	15 min	20 min	30 min	60 min	120 min	180 min	300 min	480 min	600 min
10.2	3711	2992	2432	1843	1158	701	501	336	230	192
10.5	3640	2886	2361	1786	1125	689	490	328	226	187
10.8	3569	2780	2291	1728	1091	677	470	320	221	182

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	368	288	240	184	107	64.0	46.4	30.4	20.8	17.3
10.5	342	275	232	180	105	60.6	44.7	28.7	19.1	15.7
10.8	320	264	224	176	102	57.6	43.2	27.2	17.6	14.4

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

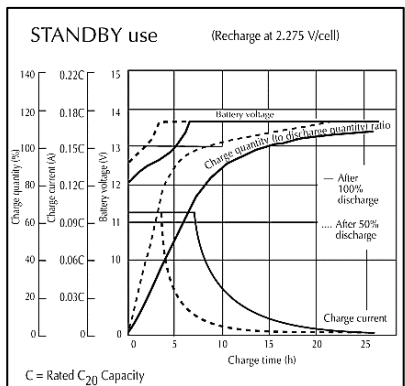
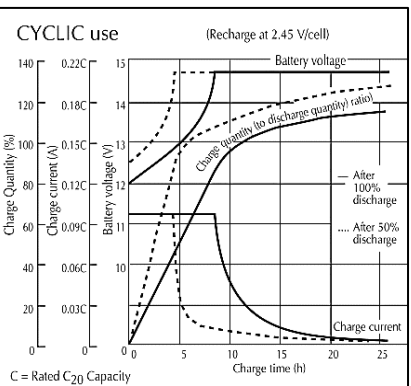
Capacity Retention & Supplementary Charge



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	

Charge Characteristics

Recharge voltages: Batteries to be charged in CC-CV mode only		Current setting	
Recharge Voltage Type	Voltage settings per 12 V unit for ambient temperature 20°C-30°C	Maximum	0.3C A
Float	13.7 ± 0.1 V	Minimum	0.1C A
Boost	14.1 ± 0.1 V	Recommended	0.15C A
Cycle	14.7 ± 0.1 V		
Temperature compensation (Ref. 25°C)		-18 mV/ °C increase / 12 V unit	



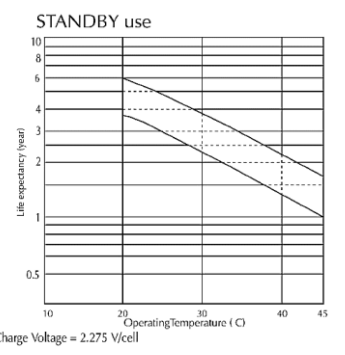
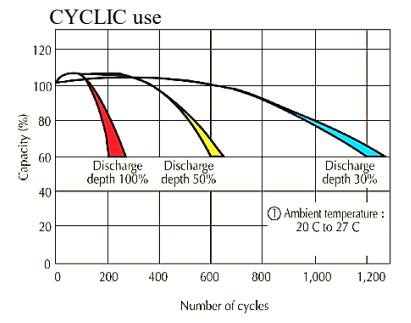
Gas Evolution & Heat Generation

Considering the wide variation in the operating condition, in a worst-case scenario,
Hydrogen gas evolved per hour per battery may be estimated as = 0.000864 m³ at NTP
Heat Generation per battery = 4.32 W

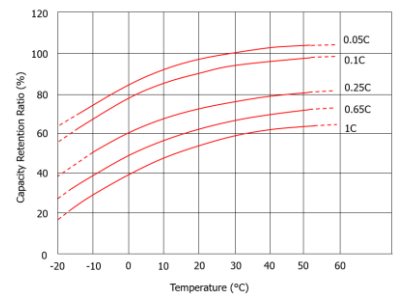
Sizing Calculator – Online



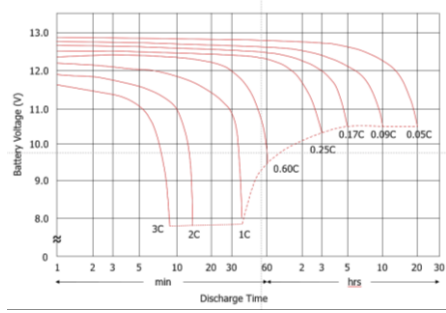
Service Life Characteristics



Effect of Temperature on Capacity



Discharge Characteristics



Installation – Best Practices

