

## UP-R500-2



ISO 9001, ISO 14001, OHSAS 18001, AQAP 2110

### Product characteristics

- Valve-regulated lead-acid battery
- Stationary and reserve power applications
- EUROBAT design life definition: Very Long Life 12+ years
- Extremely high float life performance
- Superior cycling endurance
- Compact design with high energy density
- ETSI Rack integration
- Low installation cost, maintenance free product
- Sealed for leak-free operation
- Delivered ready for use
- Non-hazardous cargo for ground, sea and air transport
- Fully recyclable product

### Physical characteristics

	SI Units	US Units
<b>Length</b>	389 mm	15.31 inches
<b>Width</b>	171 mm	6.73 inches
<b>Height</b>	238 mm	9.37 inches
<b>Weight</b>	33.1 kg	72.97 lbs

### Technical Specifications

#### Electrical specifications:

Nominal voltage	2V
Number of cells	1
Rated capacity	500 Ah (10 h rate to 1.80 Vpc at 20 °C) 499 Ah (8 h rate to 1.75 Vpc at 25 °C)
Internal resistance	0.32 mOhm (IEC 60 896 -21/22)
Short circuit current	5940 A (IEC 60 896 -21/22)
Float charge voltage	2.27 V per cell (Vpc) at 20°C

#### Design features:

Design life at 20 °C	Very Long Life 12+ years
Plates	Tick Flat Pasted
Active material	Very high purity virgin lead
Grid alloy	Lead-Calcium-Tin alloy
Electrolyte	Sulphuric acid, Analytical grade
Separator	Absorbing Glass Mat (AGM)
Operating temperature	-20 °C to +60 °C (maximum) +15 °C to +25 °C (recommended)
Venting valve	One way, self resealing - Opening pressure: 1.7 PSI - Resealing pressure: 1.5 PSI
Internal gas recombination efficiency	more than 99%
Central degassing system	N/A
Flame arrester	N/A
Storage temperatures	-20°C to +40°C
Self discharge	Less than 2.0% per month at 20°C
Storability without recharging	Up to 6 months at 20°C
Shelf life	Up to 1 year
Container / lid material	Shock resistant ABS FR; flammability class UL94 V0
Terminal position	Top
Terminal sealing	Mechanical + epoxy double sealing
Terminal type	Brass; Female; M8 thread
Terminal torque	8 Nm
Terminal cover	Available
Carrying Handles	Available (2)
Connectors and bolts	Supplied as standard

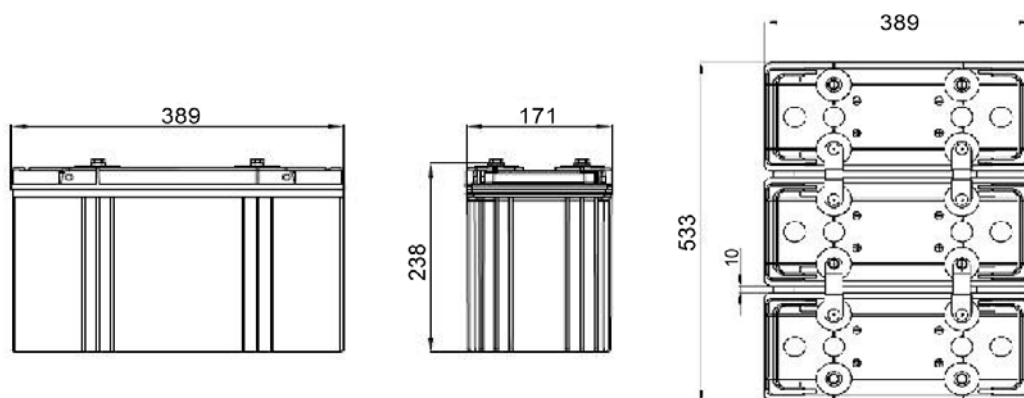
#### Applicable standards:

- IEC 60896 - 21/22
- EN 50272 - 2
- IEC 61427 - 1/2
- IEC 61056 - 1
- IEEE 1184
- IEEE 1187 / 1188



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Drawings



Battery discharge performance at 20°C

Temperature correction factor of capacity at constant current discharge

Discharge time	-10°C	0°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
From 5 to 59 minutes	0.70	0.80	0.90	0.95	1	1.05	1.10	1.13	1.15	1.16
From 1 to 20 hours	0.82	0.88	0.94	0.97	1	1.03	1.05	1.08	1.09	1.10

Battery capacity at constant current discharge (Ah) for battery at 20°C

Uf, Vpc	5 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h
1.60	106	180	258	314.0	365.5	401.5	427.5	448.0	463.5	494.5	515.0	551.0
1.65	104	180	257	312.5	364.0	400.0	425.5	446.0	461.5	492.0	512.5	548.0
1.70	102	179	255	311.0	362.0	398.0	423.5	443.5	459.0	489.5	510.0	545.5
1.75	101	177	253	308.0	358.5	394.0	419.0	439.5	454.5	485.0	505.0	540.0
1.80	100	175	250	305.0	355.0	390.0	415.0	435.0	450.0	480.0	500.0	535.0
1.85	98	171	244	297.5	346.0	380.0	405.0	424.0	439.0	468.0	487.5	521.5

Discharge performance at constant current discharge (A) for battery at 20°C

Uf, Vpc	5 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h
1.60	1267	720	515	314.0	182.8	133.8	106.9	89.6	77.3	61.8	51.5	27.55
1.65	1245	718	513	312.5	182.0	133.3	106.4	89.2	76.9	61.5	51.3	27.40
1.70	1224	714	510	311.0	181.0	132.7	105.9	88.7	76.5	61.2	51.0	27.28
1.75	1212	708	505	308.0	179.3	131.3	104.8	87.9	75.8	60.6	50.5	27.00
1.80	1200	700	500	305.0	177.5	130.0	103.8	87.0	75.0	60.0	50.0	26.75
1.85	1170	682	488	297.5	173.0	126.7	101.3	84.8	73.2	58.5	48.8	26.08

Discharge performance at constant power discharge (W per cell) for battery at 20°C

Uf, Vpc	5 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h
1.60	2532	1440	1030	628.0	365.5	267.7	213.8	179.2	154.5	123.6	103.0	55.10
1.65	2460	1436	1026	625.0	364.0	266.7	212.8	178.4	153.8	123.0	102.5	54.80
1.70	2442	1428	1020	622.0	362.0	264.0	211.8	177.4	153.0	122.4	102.0	54.55
1.75	2424	1416	1010	616.0	358.5	261.3	209.5	175.8	151.5	120.7	101.0	54.00
1.80	2400	1400	1000	610.0	355.0	260.0	207.5	174.0	150.0	120.0	100.0	53.50
1.85	2340	1364	976	595.0	346.0	253.3	202.5	169.6	146.3	117.0	97.50	52.15



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**Battery charge conditions at 20°C**

**Charge regime: constant voltage and limited current (IU)**

Charge current limit	Float charge voltage	Equalization charge voltage	Boost charge voltage
0.1 - 0.25C <sub>10</sub> A Recommended: 0.20C <sub>10</sub> A	2.27 V per cell at 20°C; Temperature correction: -3 mV / cell / °C	2.32 V per cell at 20°C Recommended: every 3 months for 24h during long time float operation	2.40 V per cell at 20°C Temperature correction: -4 mV / cell / °C
<b>Float application:</b> 0.20C <sub>10</sub> A / 2.27 V per cell at 20°C		<b>Cycling applications:</b> 0.20C <sub>10</sub> A / 2.40 V per cell at 20°C; Recharge Ah input at least 105% from previous discharge Ah	

