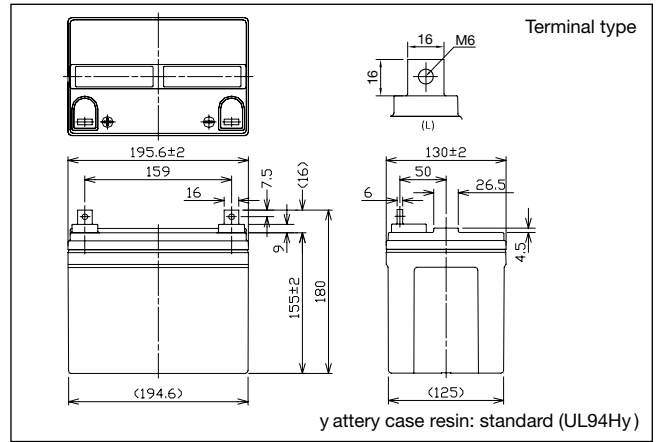


LC-R1233P

For main and standby power supplies.
Expected trickle design life: 6 – 9 years at 20 °C according to Eurobat.



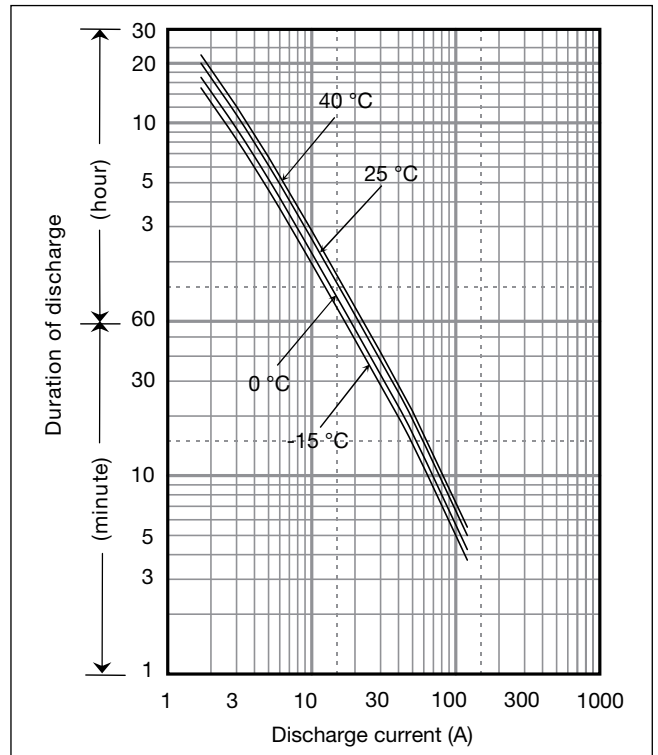
Dimensions (mm)



Specifications

| | | |
|---------------------------------|----------------------|----------|
| Nominal voltage | 12 V | |
| Nominal capacity (20 hour rate) | 33 Ah | |
| Dimensions | Length | 195.6 mm |
| | Width | 130 mm |
| | Height | 155 mm |
| | Total Height | 180 mm |
| Approx. mass | 12 kg | |
| Terminal | M6 yolt and Nut type | |

Duration of discharge vs Discharge current



Characteristics

| | | |
|---|--|----------------------------------|
| Capacity (25 °C) | 20 hour rate 10 hour rate 5 hour rate 1 hour rate | 33 Ah 30 Ah 27 Ah 20 Ah |
| Internal resistance | Fully charged battery (25 °C) | 7 mΩ |
| Temperature dependency of capacity (20 hour rate) | 40 °C | 102 % |
| | 25 °C | 100 % |
| | 0 °C | 85 % |
| | -15 °C | 65 % |
| Self discharge (25 °C) | After 3 months | 91 % |
| | After 6 months | 82 % |
| | After 12 months | 64 % |

Watt Table

(Wattage/Battery)

| Cut-off V | 3min | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 10h | 20h | 24h |
|-----------|------|------|-------|-------|-------|-------|-------|-----|------|-----|-----|------|------|------|------|------|------|
| 9.6V | 1546 | 1254 | 948 | 732 | 635 | 457 | 328 | 268 | 187 | 149 | 107 | 86.6 | 69.5 | 60.5 | 36.9 | 19.8 | 16.5 |
| 9.9V | 1446 | 1182 | 928 | 721 | 630 | 452 | 322 | 262 | 182 | 148 | 105 | 85.4 | 68.3 | 60.0 | 36.9 | 19.8 | 16.5 |
| 10.2V | 1379 | 1115 | 899 | 706 | 619 | 443 | 321 | 259 | 170 | 147 | 104 | 84.2 | 67.7 | 60.0 | 36.9 | 19.8 | 16.5 |
| 10.5V | 1323 | 1051 | 868 | 684 | 603 | 433 | 314 | 256 | 168 | 146 | 104 | 84.2 | 67.7 | 60.0 | 36.9 | 19.8 | 16.5 |
| 10.8V | 1182 | 1001 | 823 | 663 | 590 | 421 | 281 | 233 | 162 | 137 | 99 | 82.5 | 67.1 | 58.8 | 36.9 | 19.8 | 16.3 |

Ampere Table

(Ampere/Battery)

| Cut-off V | 3min | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 10h | 20h | 24h |
|-----------|------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 9.6V | 139 | 113 | 84.6 | 63.7 | 54.8 | 39.1 | 27.9 | 22.8 | 15.8 | 12.6 | 9.00 | 7.25 | 5.80 | 5.10 | 3.08 | 1.65 | 1.38 |
| 9.9V | 130 | 106 | 82.9 | 62.7 | 54.4 | 38.6 | 27.4 | 22.2 | 15.5 | 12.5 | 8.85 | 7.15 | 5.70 | 5.00 | 3.08 | 1.65 | 1.38 |
| 10.2V | 124 | 100 | 80.3 | 61.4 | 53.4 | 37.9 | 27.4 | 22.0 | 14.4 | 12.4 | 8.75 | 7.05 | 5.65 | 5.00 | 3.08 | 1.65 | 1.38 |
| 10.5V | 119 | 94 | 77.5 | 59.5 | 52.0 | 37.0 | 26.8 | 21.8 | 14.3 | 12.3 | 8.70 | 7.05 | 5.65 | 5.00 | 3.08 | 1.65 | 1.38 |
| 10.8V | 106 | 90 | 73.5 | 57.7 | 50.9 | 36.0 | 24.0 | 19.8 | 13.7 | 11.6 | 8.35 | 6.90 | 5.60 | 4.90 | 3.08 | 1.65 | 1.36 |

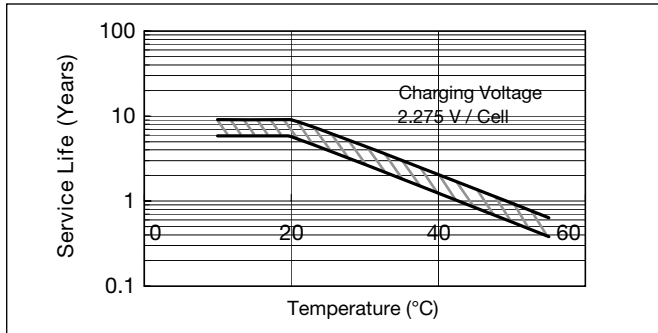
Charging Method

| | |
|-------------|--|
| Cycle use | Control voltage: 14.5 - 14.9 V; Initial current: 13.2 A or smaller |
| Trickle use | Control voltage: 13.6 - 13.8 V; Initial current: 4.95 A or smaller |

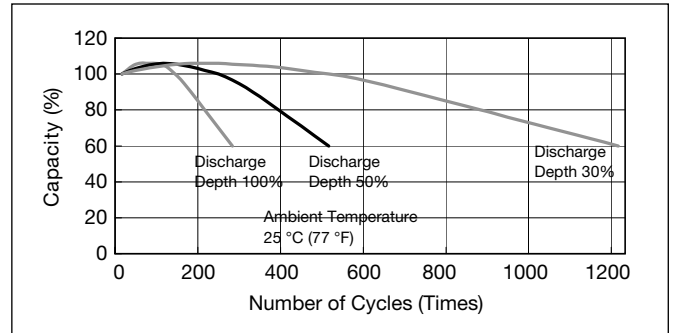
Cut off voltage

| | | | | | |
|---------------------|----------------|----------------|---------------|-------------|-------------|
| Discharge current | 1.65 A - 6.6 A | 6.6 A - 16.5 A | 16.5 A - 33 A | 33 A - 66 A | 66 A - 99 A |
| Cut off voltage (V) | 10.5 | 10.2 | 9.9 | 9.3 | 8.7 |

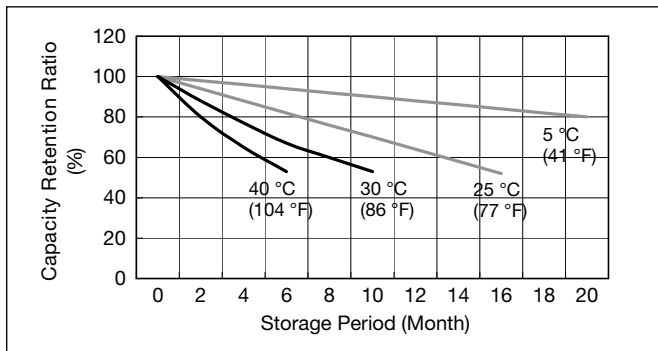
Influence of Temperature on Trickle life



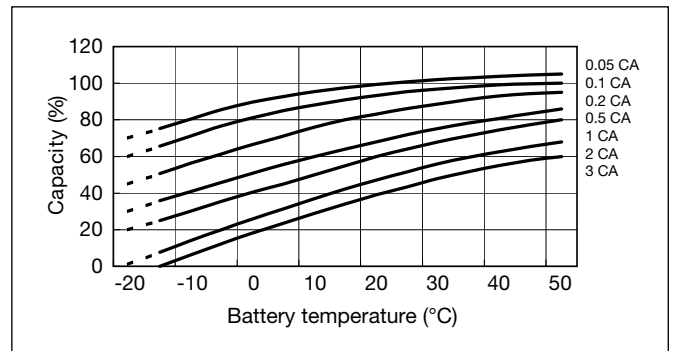
Cycle life vs Depth of discharge



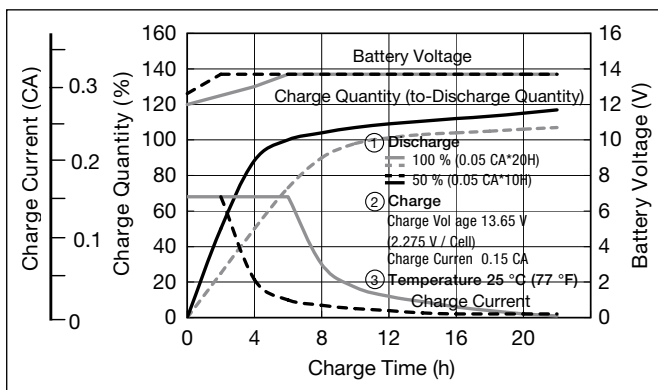
Residual capacity vs storage period



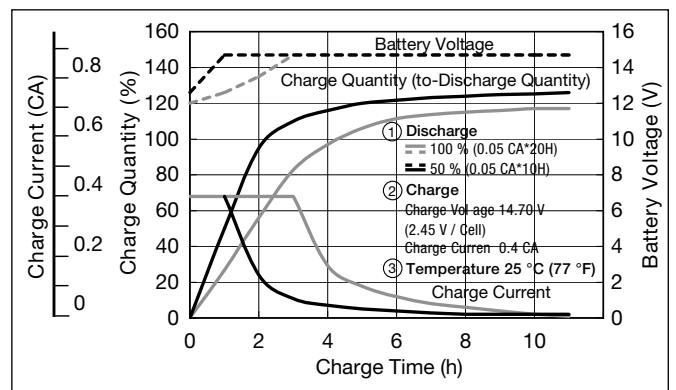
Discharge capacity by temperature and by discharge current



Constant-voltage and constant-current charge characteristics for Trickle use



Constant-voltage and constant-current charge characteristics for Cycle use



Discharge characteristics

