

# LC-R123R4PG

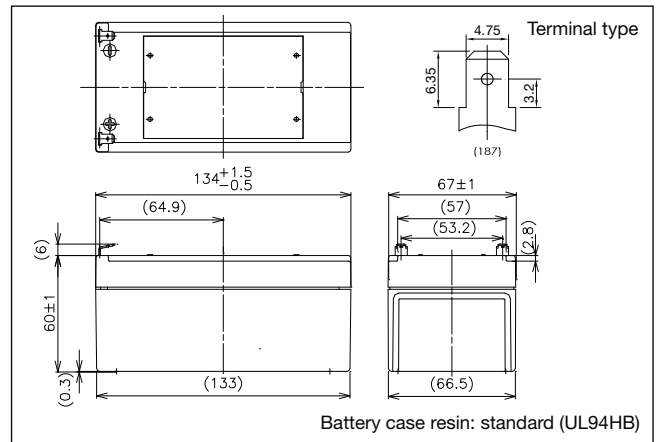
For main and standby power supplies. Expected trickle design life: 6 – 9 years at 20°C according to Eurobat.

VdS

G191053



## Dimensions (mm)



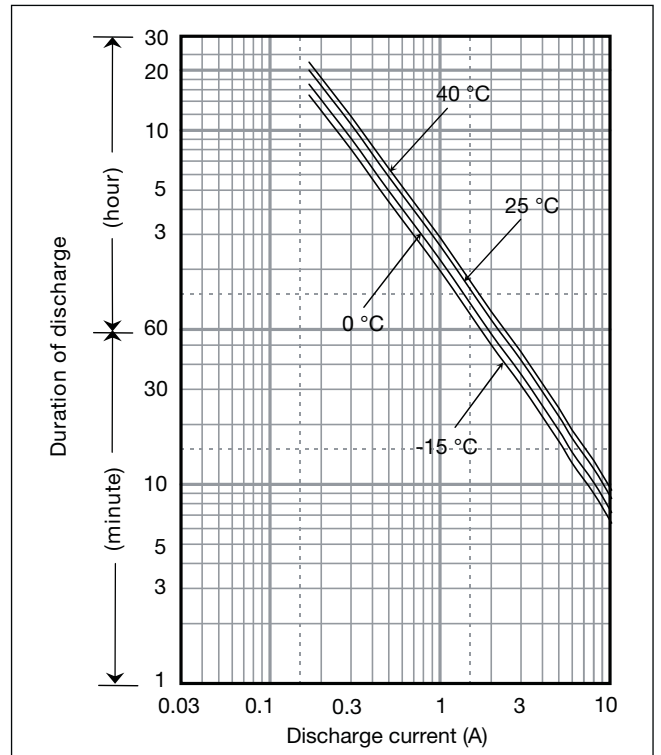
## Specifications

|                                 |              |       |
|---------------------------------|--------------|-------|
| Nominal voltage                 | 12V          |       |
| Nominal capacity (20 hour rate) | 3.4Ah        |       |
| Dimensions                      | Length       | 134mm |
|                                 | Width        | 67mm  |
|                                 | Height       | 60mm  |
|                                 | Total Height | 66mm  |
| Approx. mass                    | 1.2kg        |       |
| Terminal                        | Faston 187   |       |

## Characteristics

|   |                              |       |
|---|------------------------------|-------|
| Capacity (25°C)                                   | 20 hour rate                 | 3.4Ah |
|   | 10 hour rate                 | 3.0Ah |
|   | 5 hour rate                  | 2.7Ah |
|   | 1 hour rate                  | 2.1Ah |
| Internal resistance                               | Fully charged battery (25°C) | 60mΩ  |
| 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%   |

## Duration of discharge vs Discharge current



## 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      | 204  | 161  | 105   | 80.4  | 67.4  | 50.3  | 35.5  | 28.4 | 19.6 | 15.0 | 11.3 | 8.63 | 7.13 | 5.80 | 3.81 | 2.06 | 1.72 |
| 9.9V      | 190  | 151  | 103   | 79.8  | 66.3  | 49.7  | 35.3  | 28.4 | 19.2 | 14.9 | 11.2 | 8.58 | 7.07 | 5.78 | 3.80 | 2.05 | 1.71 |
| 10.2V     | 175  | 142  | 100   | 78.2  | 65.2  | 49.2  | 34.9  | 27.8 | 18.8 | 14.5 | 11.1 | 8.52 | 7.01 | 5.73 | 3.76 | 2.05 | 1.71 |
| 10.5V     | 155  | 127  | 93    | 72.8  | 61.9  | 48.1  | 34.4  | 27.3 | 18.4 | 14.0 | 11.0 | 8.46 | 6.96 | 5.66 | 3.74 | 2.04 | 1.70 |
| 10.8V     | 131  | 112  | 83    | 67.9  | 60.3  | 46.4  | 33.8  | 26.7 | 17.8 | 13.4 | 10.7 | 8.46 | 6.79 | 5.66 | 3.68 | 1.98 | 1.70 |

## 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      | 18.4 | 14.4 | 9.40  | 6.99  | 5.81  | 4.30  | 3.02  | 2.41 | 1.66 | 1.26 | 0.949 | 0.722 | 0.595 | 0.484 | 0.318 | 0.171 | 0.143 |
| 9.9V      | 17.0 | 13.6 | 9.21  | 6.94  | 5.71  | 4.25  | 3.00  | 2.41 | 1.62 | 1.26 | 0.945 | 0.718 | 0.590 | 0.482 | 0.316 | 0.171 | 0.143 |
| 10.2V     | 15.7 | 12.7 | 8.97  | 6.80  | 5.62  | 4.20  | 2.97  | 2.36 | 1.59 | 1.22 | 0.935 | 0.713 | 0.586 | 0.478 | 0.313 | 0.170 | 0.142 |
| 10.5V     | 14.0 | 11.4 | 8.31  | 6.33  | 5.34  | 4.11  | 2.93  | 2.31 | 1.56 | 1.18 | 0.921 | 0.708 | 0.581 | 0.472 | 0.312 | 0.170 | 0.142 |
| 10.8V     | 11.8 | 10.1 | 7.41  | 5.90  | 5.19  | 3.97  | 2.88  | 2.27 | 1.51 | 1.13 | 0.897 | 0.708 | 0.567 | 0.472 | 0.307 | 0.165 | 0.142 |

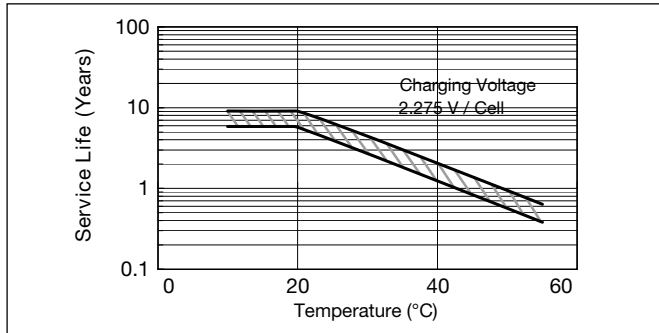
**Charging Method**

|             |  |
|-------------|--|
| Cycle use   | Control voltage: 14.5 - 14.9V; Initial current: 1.36A or smaller |
| Trickle use | Control voltage: 13.6 - 13.8V; Initial current: 0.51A or smaller |

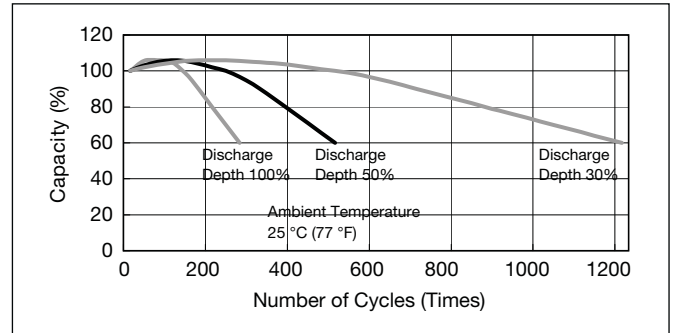
**Cut off voltage**

|                     |               |              |             |             |              |
|---------------------|---------------|--------------|-------------|-------------|--------------|
| Discharge current   | 0.17A - 0.68A | 0.68A - 1.7A | 1.7A - 3.4A | 3.4A - 6.8A | 6.8A - 10.2A |
| Cut off voltage (V) | 10.5          | 10.2         | 9.9         | 9.3         | 8.7          |

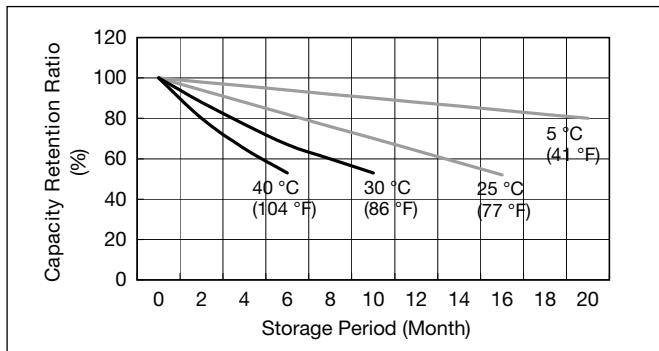
**Influence of Temperature on Trickle life**



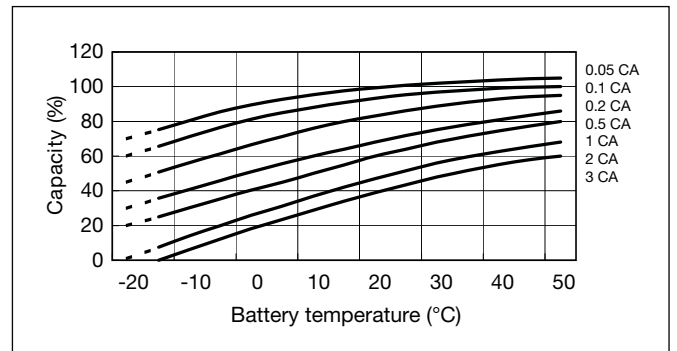
**Cycle life vs Depth of discharge**



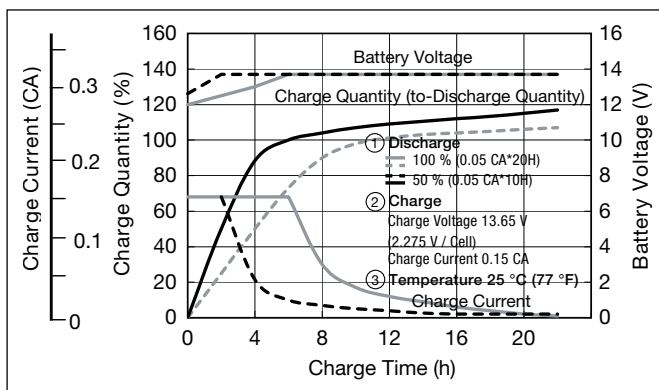
**Residual capacity vs storage period**



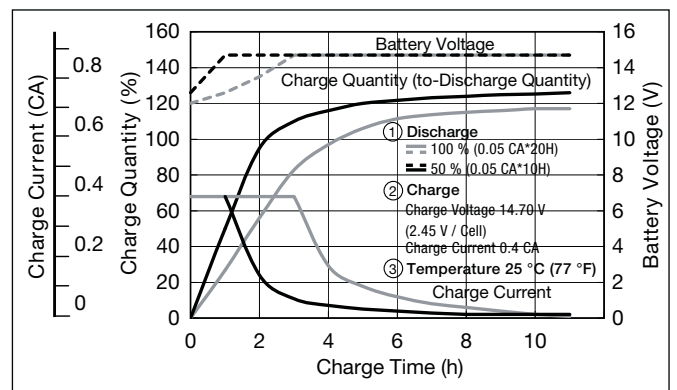
**Discharge capacity by temperature and by discharge current**



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



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



**Discharge characteristics**

