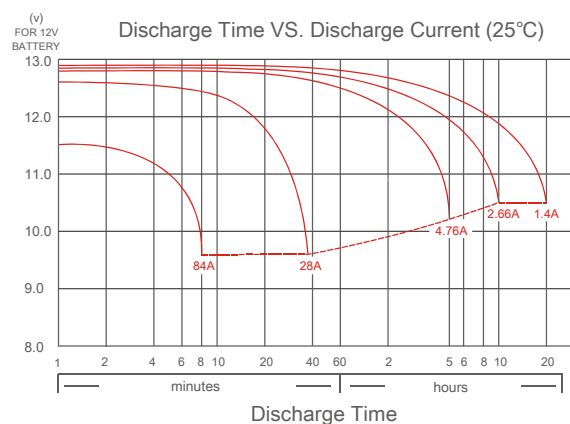
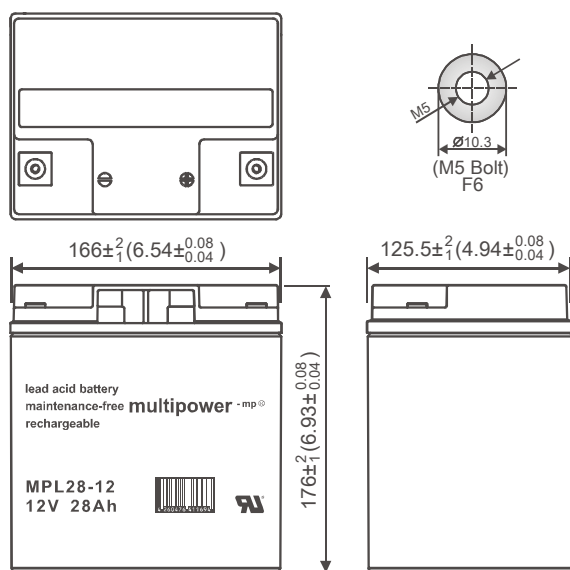


## RECHARGEABLE SEALED LEAD ACID BATTERY

## SPECIFICATION



### MPL28-12 (Artikel-Nr. 2010604)

Nominal Voltage (V) 12V

#### Nominal Capacity

|              |        |    |         |         |
|--------------|--------|----|---------|---------|
| 20 hour rate | (1.4A  | to | 10.50V) | 28.00Ah |
| 10 hour rate | (2.66A | to | 10.50V) | 26.60Ah |
| 5 hour rate  | (4.76A | to | 10.20V) | 23.80Ah |
| 1 C          | (28A   | to | 9.60V)  | 17.73Ah |
| 3 C          | (84A   | to | 9.60V)  | 11.20Ah |

Weight Approx. 9.18kg (20.2lbs.)

Internal Resistance (at 1KHz) Approx. 9.4 mΩ

#### Maximum Discharge Current for

5 seconds: 420A

#### Charging Methods at 25°C (77°F)

Maximum Charging Current: 8.4A

#### Standby use:

Float Charging Voltage 13.50V to 13.80V

Coefficient -3.0mV/°C/cell

#### Operating Temperature Range

Charge -15°C (5°F) to 40°C (104°F)

Discharge -15°C (5°F) to 50°C (122°F)

Storage -15°C (5°F) to 40°C (104°F)

#### Charge Retention (shelf life) at 20°C (68°F)

1 month 92%

3 month 90%

6 month 80%

Case Material ABS UL94 HB

Terminal F6

#### Description of torque value of hard ware for the terminals:

Recommended torque value M5: 5 N-m (51kgf-cm)

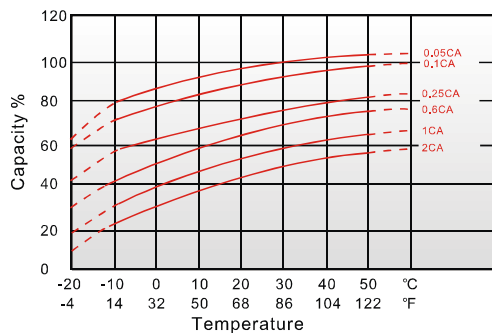
Maximum allowable torque value M5: 6 N-m (61kgf-cm)

#### Design Life

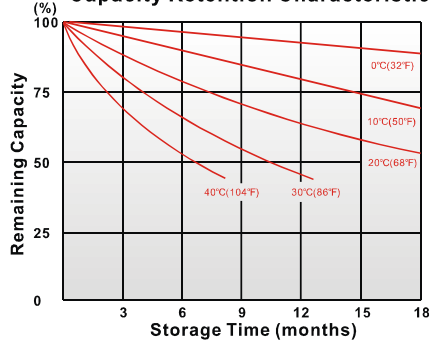
Eurobat (20°C) : 10+ years

## CHARACTERISTIC & PERFORMANCE DATA

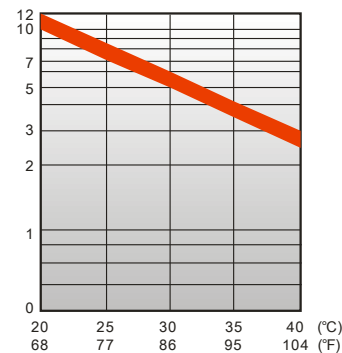
Effect of Temperature on Capacity 25°C(77°F)



Capacity Retention Characteristic



Trickle (or float) Service Life



### - PERFORMANCE DATA

Discharge Rates in Watts per Cell to Various End Voltages at 25°C(77°F)

| End Voltage |     | 1.85V | 1.75V | 1.70V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |
| 5           | min | 153   | 164   | 172   | 183   | 194   |
| 10          | min | 131   | 133   | 138   | 144   | 146   |
| 15          | min | 103   | 105   | 108   | 110   | 112   |
| 20          | min | 89.8  | 91.0  | 94.7  | 96.7  | 97.7  |
| 30          | min | 62.4  | 64.4  | 66.3  | 67.4  | 68.5  |
| 45          | min | 42.7  | 47.4  | 43.2  | 49.2  | 50.9  |
| 60          | min | 36.8  | 41.4  | 42.0  | 42.5  | 43.5  |
| 90          | min | 25.0  | 25.9  | 26.0  | 26.2  | 26.7  |
| 120         | min | 19.8  | 21.1  | 21.3  | 21.5  | 21.7  |
| 180         | min | 14.2  | 14.8  | 15.0  | 15.3  | 15.5  |
| 240         | min | 11.9  | 12.1  | 12.2  | 12.3  | 12.5  |
| 300         | min | 10.1  | 10.2  | 10.3  | 10.4  | 10.6  |
| 480         | min | 6.80  | 7.20  | 7.28  | 7.53  | 7.68  |
| 600         | min | 5.31  | 5.32  | 5.33  | 5.34  | 5.35  |
| 1200        | min | 2.81  | 2.82  | 2.83  | 2.84  | 2.85  |

- Discharge Rates in Amperes to per Battery Various End Voltages at 25°C(77°F)

| End Voltage |     | 1.85V | 1.75V | 1.70V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |
| 5           | min | 83.0  | 88.5  | 93.0  | 99.0  | 105   |
| 10          | min | 70.0  | 71.2  | 73.5  | 76.8  | 78.3  |
| 15          | min | 53.6  | 54.7  | 56.0  | 57.0  | 58.1  |
| 20          | min | 46.8  | 47.3  | 48.9  | 49.9  | 50.5  |
| 30          | min | 32.2  | 33.3  | 34.1  | 34.9  | 36.0  |
| 45          | min | 22.1  | 23.9  | 24.6  | 25.3  | 26.2  |
| 60          | min | 18.7  | 21.2  | 21.7  | 22.2  | 22.9  |
| 90          | min | 12.8  | 13.2  | 13.6  | 13.8  | 14.1  |
| 120         | min | 10.2  | 10.7  | 10.8  | 10.9  | 11.0  |
| 180         | min | 7.11  | 7.42  | 7.52  | 7.62  | 7.73  |
| 240         | min | 5.92  | 5.97  | 6.20  | 6.31  | 6.42  |
| 300         | min | 4.98  | 5.11  | 5.15  | 5.20  | 5.22  |
| 480         | min | 3.38  | 3.47  | 3.49  | 3.53  | 3.55  |
| 600         | min | 2.62  | 2.66  | 2.67  | 2.68  | 2.69  |
| 1200        | min | 1.41  | 1.42  | 1.43  | 1.44  | 1.45  |

All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$  (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$  (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$  (+8%~-8%),  $X \geq 60\text{min}$  (+5%~-5%)