

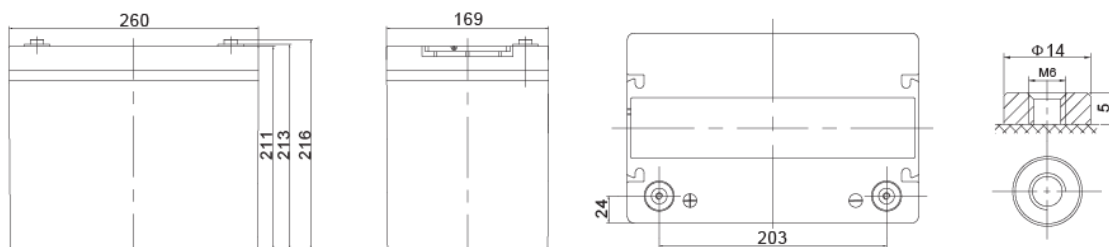


# SBL 60-12i(sh)



|                     |                                  |
|---------------------|----------------------------------|
| Nominal voltage     | 12 V                             |
| Nominal capacity    | 63,6 Ah @ C20 to 1,75 V/cell     |
|                     | 60 Ah @ C10 to 1,80 V/cell       |
| Technology          | AGM (Absorbent Glass Mat)        |
|                     | VRLA (Valve Regulated Lead Acid) |
| Weight              | ~ 20,5 kg                        |
| Design life time    | 12 years (standby use)           |
|                     | Long Life acc. Eurobat           |
| Internal resistance | ~ 4,8 mΩ (full charged)          |

|                             |                                 |
|-----------------------------|---------------------------------|
| Operating temperature range | Discharge -20°C ~ +60°C         |
|                             | Charge 0°C ~ +50°C              |
|                             | Storage -20°C ~ +60°C           |
| Max. discharge current      | 600 A (5 sec)                   |
| Short circuit current       | 1380 A                          |
| Max. charging current       | 18 A                            |
| Charging voltage            | Standby use 13,6 ~ 13,8 VDC     |
|                             | Cycle use 14,6 ~ 14,8 VDC       |
| Self discharge              | Monthly is less than 3% at 25°C |
| Container material          | ABS UL94HB (optional UL94-V0)   |



|  |           |
|--|-----------|
| Length   | 260 ±2 mm |
| Width  | 169 ±2 mm |
| Height   | 211 ±2 mm |
| Total height                                   | 216 ±2 mm |
| Internal thread M6<br>(breaking torque 8-10Nm) |           |

## CONSTANT CURRENT DISCHARGE CHARACTERISTICS (A at 25°C)

| Voltage/Time | 10 MIN | 15 MIN | 30 MIN | 60 MIN | 2 H  | 3 H  | 4 H  | 5 H  | 8 H | 10 H | 20 H |
|--------------|--------|--------|--------|--------|------|------|------|------|-----|------|------|
| 1.60 V       | 146,4  | 111,2  | 65,7   | 36,7   | 21,8 | 16,9 | 13,3 | 11,3 | 7,6 | 6,33 | 3,31 |
| 1.65 V       | 138,4  | 106,4  | 63,1   | 35,4   | 21,1 | 16,4 | 12,9 | 11,0 | 7,5 | 6,25 | 3,26 |
| 1.70 V       | 127,4  | 99,6   | 60,3   | 34,3   | 20,4 | 16,0 | 12,6 | 10,7 | 7,4 | 6,16 | 3,22 |
| 1.75 V       | 116,6  | 92,7   | 57,6   | 33,0   | 19,7 | 15,5 | 12,3 | 10,5 | 7,3 | 6,08 | 3,18 |
| 1.80 V       | 105,6  | 85,6   | 55,1   | 31,7   | 19,0 | 15,0 | 11,9 | 10,2 | 7,2 | 6,00 | 3,15 |
| 1.85 V       | 86,3   | 71,0   | 47,4   | 28,5   | 17,4 | 13,9 | 11,1 | 9,5  | 6,7 | 5,65 | 2,99 |

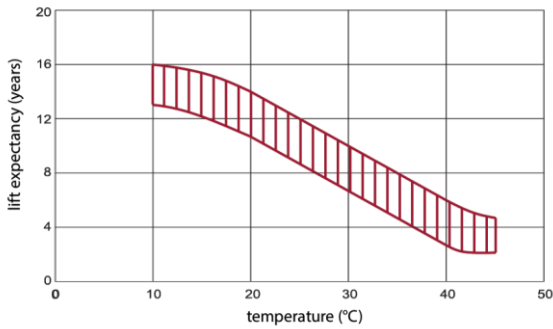
## CONSTANT POWER DISCHARGE CHARACTERISTICS (W/cell at 25°C)

| Voltage/Time | 10 MIN | 15 MIN | 30 MIN | 60 MIN | 2 H  | 3 H  | 4 H  | 5 H  | 8 H  | 10 H  | 20 H |
|--------------|--------|--------|--------|--------|------|------|------|------|------|-------|------|
| 1.60 V       | 254,3  | 195,0  | 119,3  | 70,8   | 43,0 | 31,8 | 26,0 | 22,0 | 14,9 | 12,76 | 6,56 |
| 1.65 V       | 253,2  | 193,9  | 116,4  | 70,2   | 42,7 | 31,6 | 25,8 | 21,9 | 14,8 | 12,67 | 6,52 |
| 1.70 V       | 245,8  | 188,6  | 113,5  | 68,7   | 42,0 | 31,1 | 25,4 | 21,6 | 14,6 | 12,51 | 6,45 |
| 1.75 V       | 236,6  | 182,2  | 110,1  | 66,7   | 41,0 | 30,5 | 24,9 | 21,2 | 14,4 | 12,31 | 6,36 |
| 1.80 V       | 223,1  | 172,9  | 105,2  | 64,0   | 39,8 | 29,6 | 24,3 | 20,7 | 14,1 | 12,04 | 6,25 |
| 1.85 V       | 204,5  | 160,1  | 98,5   | 60,5   | 38,0 | 28,4 | 23,4 | 19,9 | 13,6 | 11,68 | 6,09 |

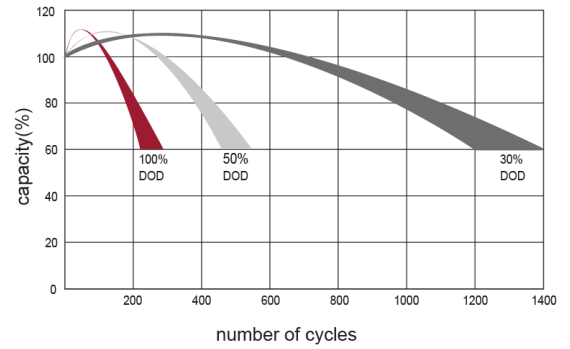
# SBL 60-12i(sh)



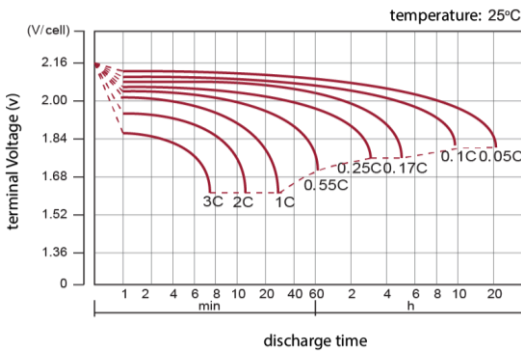
EFFECT OF TEMPERATURE ON LONG TERM LIFE



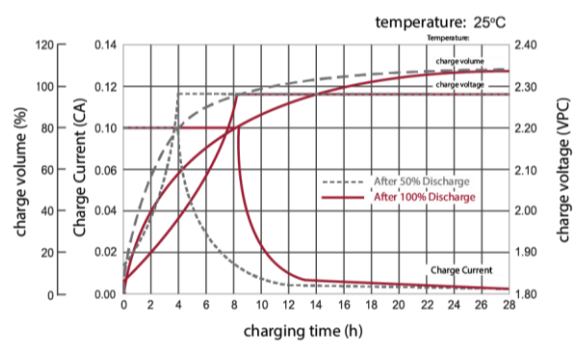
CYCLE LIFE IN RELATION TO DEPTH OF DISCHARGE



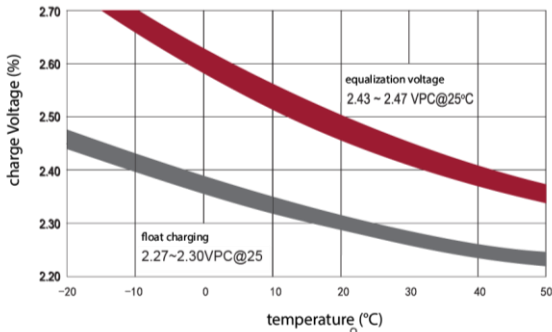
DISCHARGE CHARACTERISTICS CURVE



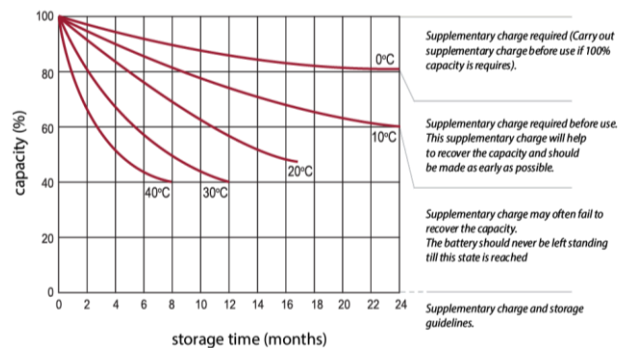
CHARGE CHARACTERISTIC CURVE FOR CYCLE USE



RELATIONSHIP BETWEEN CHARGING VOLTAGE AND TEMPERATURE



STORAGE CHARACTERISTICS



**Standards met:**

PN-EN 60896-21:2007 • PN-EN 60896-22:2007 • PN-EN 61056-1:2013 • PN-EN 61056-2:2013 • PN-E-83016:1999

Batteries manufactured in compliance with: ISO 9001 • ISO 14001

|                |                       |                    |                  |                  |                                  |
|----------------|-----------------------|--------------------|------------------|------------------|----------------------------------|
| AGM Technology | VRLA Maintenance Free | Standard Type      | -20st°C - 60st°C | Recyclable       | 10-12 Years Life Expect. EUROBAT |
| UPS            | Emergency Lighting    | Fire Alarm Systems | Security Systems | Energy Utilities | DC Power Supply                  |

All data contained in this document, are subject to change. Wamtechnik Sp. z o.o. reserves the right to change them without prior notice.