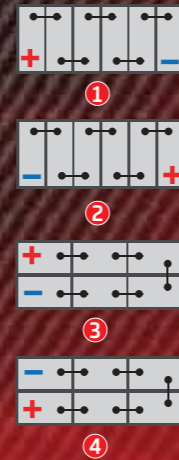


**Key Product Features**

- Calcium-calcium-tin and calcium-silver maintenance-free battery
- Expanded metal grid technology
- Centered cast-on-strap cells
- Double chamber container with condensation mechanism
- Built-in magic eye and flame arrestor
- Best grade virgin lead, pp and chemicals
- Robust design to perform in all terrain conditions

**CELL LAYOUT**



DIN Bottom Hold  
5 notches

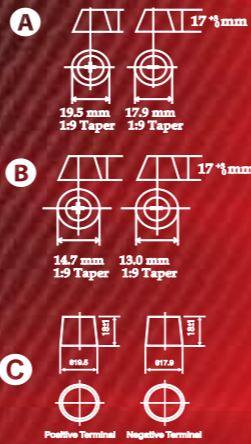
B13



JIS Bottom Hold



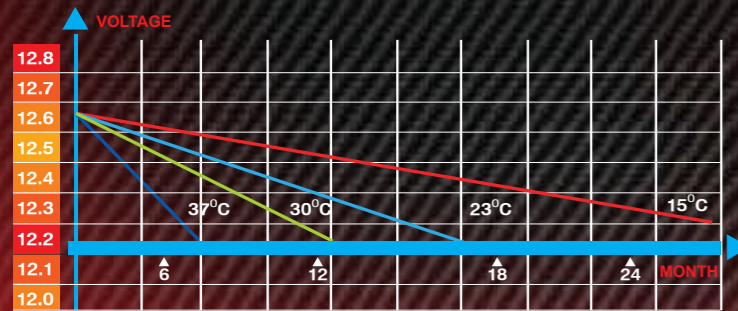
**TERMINAL**



**Self - Discharge Characteristics**

Self-discharge by nature is a common phenomenon for lead-acid batteries. The reason behind this is the impurities contained in lead alloy induce local action, causing electric energy to be consumed. This phenomenon is temperature dependent, higher temperature leads to higher discharge. Compared with the other lead acid batteries **POWER CRANK** uses carefully selected highly refined Ca-Tin alloy, rendering extremely low rate of self discharge. That's why a freshening charge is not required for **POWER CRANK** batteries until the OCV becomes 12.2V or lower.

Fig : Self - Discharge Characteristics



At 12.2 V latest a recharge is needed

37°C = 7 month 12.2 V  
30°C = 11 month 12.2 V  
23°C = 18 month 12.2 V  
15°C = 30 month 12.2 V

**POWER CRANK**

**BATTERIES**





CARBON SERIES

POWER CRANK

BATTERIES



AUTOMOTIVE STANDARD

NO.	Battery Type	CCA	Dimension (mm)			Cell Layout	Terminal	Weight (KG)
			L	W	H			
1	12N24-3 SMF	350	185	125	175	2	-	7.4
2	12N24-4 SMF	350	185	125	175	1	-	7.4
3	N41 SMF	400	238	134	200	1	A	10.6
4	N43 SMF	400	238	134	200	2	A	10.6
5	NS40Z SMF	400	197	129	227	1	B	9.4
6	NS40ZL SMF	400	197	129	227	2	B	9.4
7	NS40ZA SMF	400	197	129	227	1	A	9.9
8	NS40ZAL SMF	400	197	129	227	2	A	9.9
9	NS60 SMF	465	238	129	227	1	B	11.8
10	NS60L SMF	465	238	129	227	2	B	11.8
11	NS60A SMF	465	238	129	227	1	A	11.9
12	NS60AL SMF	465	238	129	227	2	A	11.9
13	NS50 SMF	550	231	173	203	1	A	15
14	NS50LA SMF	550	231	173	203	2	A	15
15	NS50Z SMF	610	231	173	203	1	A	16
16	NS50ZLA SMF	610	231	173	203	2	A	16
17	NS50ZL-EB SMF	610	231	173	203	2	A	16
18	NS50Z-EF SMF	610	231	173	203	1	A	16
19	NS50PX SMF	660	231	173	203	1	A	16
20	NS50PLXA SMF	660	231	173	203	2	A	16
21	55D23R SMF	610	231	173	225	1	A	15.4
22	55D23L SMF	610	231	173	225	2	A	15.4
23	55D23RX SMF	660	231	173	225	1	A	16.4
24	55D23LX SMF	660	231	173	225	2	A	16.4
25	65D SMF	750	301	190	190	1	A	19.7
26	78D SMF	650	260	180	180	1	-	18.2
27	NS70 SMF	675	259	173	225	1	A	17.2
28	NS70L SMF	675	259	173	225	2	A	17.2
29	NS70X SMF	710	259	173	225	1	A	18.2
30	NS70LX SMF	710	259	173	225	2	A	18.2
31	N70ZZ SMF	750	306	173	225	1	A	19.6
32	N70ZZL SMF	750	306	173	225	2	A	19.6
33	NX120-7 SMF	850	306	173	225	1	A	20.8
34	NX120-7L SMF	850	306	173	225	2	A	20.8
35	EXSNX120-7 SMF	1000	306	173	225	1	A	24.3
36	EXSNX120-7L SMF	1000	306	173	225	2	A	24.3

Truck & Heavy Machinery

1	N100 SMF	1100	400	173	220	1	A	28
2	N100L SMF	1100	400	173	220	2	A	28
3	N120 SMF	1150	506	180	228	3	A	35
4	N120R SMF	1150	506	180	228	4	A	35
5	N150 SMF	1200	506	223	230	3	A	41
6	N150R SMF	1200	506	223	230	4	A	41
7	N94 SMF	1250	506	223	204	3	A	41
8	N200 SMF	1400	506	264	235	3	A	53
9	N200R SMF	1400	506	264	235	4	A	53
10	31A SMF	1100	330	172	236	1	A	24.3
11	31AL SMF	1100	330	172	236	2	A	24.3

Deep Cycle Starting

1	DC31A SMF	1100	330	172	236	1	A	26
2	DCNX120-7 SMF	800	306	173	225	1	A	23
3	DCNX120-7L SMF	800	306	173	225	2	A	23
4	DCNS70 SMF	675	259	173	225	1	A	18.2
5	DCNS70L SMF	675	259	173	225	2	A	18.2
6	DCNS50PX SMF	625	231	173	203	1	A	16
7	DCNS50PLX SMF	625	231	173	203	2	A	16
8	31A SMFM	1100	330	172	236	1	A	26
9	N70ZZM SMF	800	306	173	225	1	A	23
10	N70M SMF	675	259	173	225	1	A	18.2
11	NS50PXM SMF	625	231	173	203	1	A	16



CARBON SERIES

POWER CRANK

BATTERIES



EUROPEAN STANDARD

NO.	Battery Type	CCA	Dimension (mm)			Cell Layout	Terminal	Weight (KG)
			L	W	H			
1	DIN44 SMF	500	207	175	175	2	C	11.2
2	DIN44H SMF	525	207	175	190	2	C	11.7
3	DIN55 SMF	580	242	175	175	2	C	14.5
4	DIN55R SMF	580	242	175	175	1	C	14.5
5	DIN55H SMF	600	242	175	190	2	C	14.6
6	DIN66 SMF	680	278	175	175	2	C	16.7
7	DIN66R SMF	680	278	175	175	1	C	16.7
8	DIN66H SMF	700	278	175	190	2	C	17
9	DIN66HR SMF	700	278	175	190	1	C	17
10	DIN77 SMF	780	315	175	175	2	C	20
11	DIN77H SMF	800	315	175	190	2	C	21
12	DIN77HR SMF	800	315	175	190	1	C	21
13	DIN88 SMF	880	353	175	175	2	C	22.8
14	DIN100 SMF	915	353	175	190	2	C	23.7

EFB STOP-START

01	EFB55D23L SMF	700	231	173	225	2	A	17.7
02	EFB55D23R SMF	700	231	173	225	1	A	17.7
03	EFBNS70 SMF	720	259	173	225	2	A	18.9
04	EFBNS70L SMF	720	259	173	225	1	A	18.9
05	EFBNX120-7 SMF	820	306	173	225	2	A	22
06	EFBNX120-7L SMF	820	306	173	225	1	A	22

