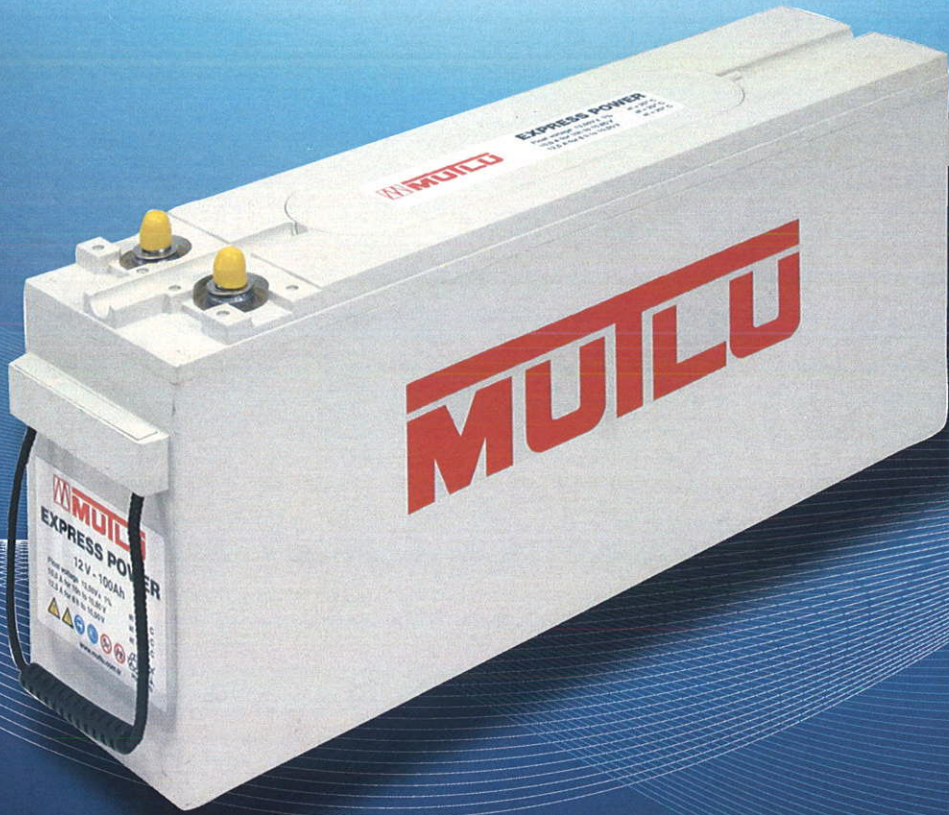


# MUTLU

## EXPRESS POWER STANDBY VRLA BATTERIES

### For Stationary Applications



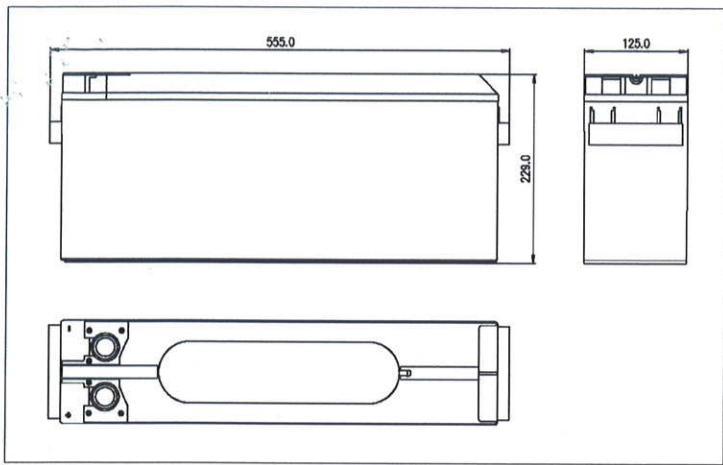
The VRLA (Valve-Regulated Lead-Acid) Battery is used for large stationary applications for power backup.

The Express Power Standby VRLA will ensure high performance and safety in long time/ standby applications. Due to its special features, this type of batteries will enable the control of low-pressure self-acting valves employed in flame retarding boxes, provide a high rate of gas recycling, and are capable of both horizontal and vertical mounting and operation.

#### **AGM Battery applications include:**

- In telecommunications
- In production/communication control systems employed in energy sector
- In communication/signalization systems in transportation sector
- In data processing centers, network rooms
- In uninterrupted power supply (UPS) systems
- In spare energy systems employed in seacrafts
- In various industrial applications; Medical Equipment, Rail Systems, Automation and Solar Systems



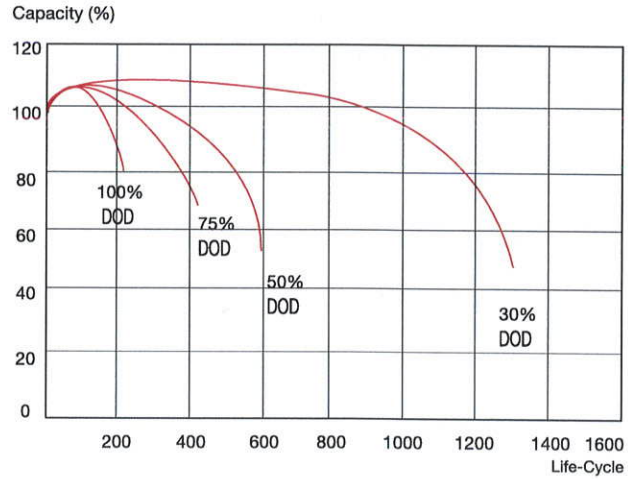
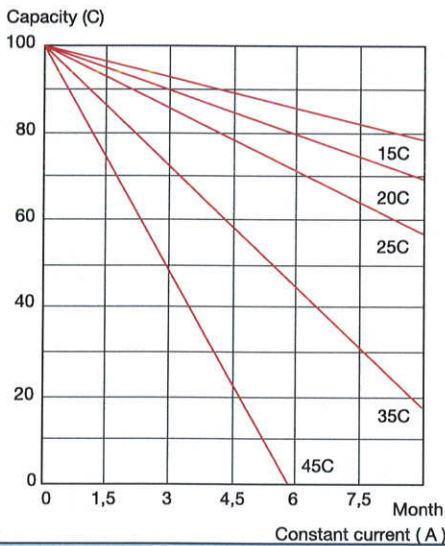


Nominal Voltage		12V
Nominal Capacity (K 20)		100 Ah
Dimensions	Height	9.01" (229 mm)
	Length	21,85" (555 mm)
	Width	4,92" (125 mm)
Weight		86.1 lbs (39,0) Kg

**TECHNICAL CHARACTERISTICS**

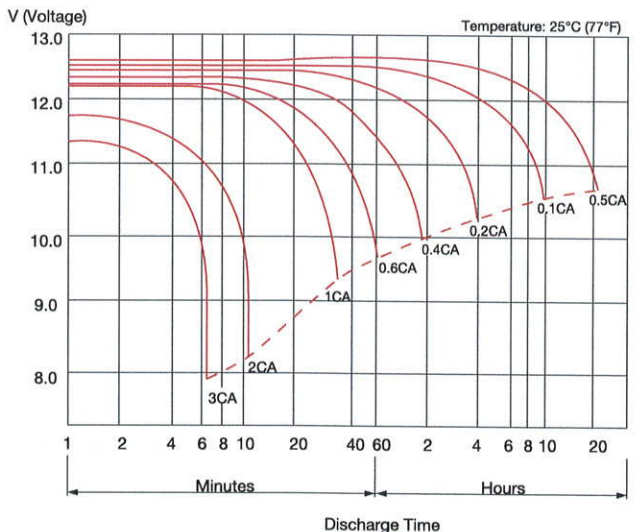
Capacity 25°C	K 20 (5,1A)	102 Ah
	K 10 (9,2A)	92 Ah
	K 5 (16,7A)	83,5 Ah
	K 3 (25,9A)	77,7 Ah
	K 1 (63,7A) 10,5 V	63,7 Ah
Internal Resistance	Charged Battery 25°C	3±0.1 mΩ
Effect of Temperature on Capacity (K20)	40°C	102%
	25°C	100%
	0°C	85%
	-20°C	60%
Self Discharge 25°C	Capacity (3 Months)	91%
	Capacity (6 Months)	82%
	Capacity (9 Months)	64%
Battery Terminals	With M8 Nut	
Charging Voltage	Max. Charging Voltage	14,1 V ±0,01 20-25°C
	Boost Charge Voltage	13,5 V ±0,01 20-25°C

Temperature °C	Boost Charging Voltage
5	13.86
10	13.74
15	13.62
20	13.50
25	13.41
30	13.38
35	13.26



FINAL VOLTAGE	20°C											
	5min	15min	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.87	195	130	90	57.5	34.2	24.8	19.6	16.3	14.0	11.0	9.0	5.0
1.85	215	140	94	59.0	34.7	25.0	19.8	16.4	14.1	11.0	9.1	5.1
1.83	233	146	98	60.3	35.2	25.3	19.9	16.5	14.2	11.1	9.2	5.1
1.80	258	156	101	61.8	35.7	25.5	20.1	16.6	14.2	11.1	9.2	5.1
1.75	295	170	106	63.7	36.3	25.9	20.3	16.7	14.3	11.2	9.2	5.1
1.70	324	178	110	65.0	36.7	26.1	20.4	16.8	14.4	11.2	9.3	5.1
1.65	348	185	113	65.8	37.0	26.2	20.5	16.9	14.4	11.2	9.3	5.1
1.60	365	190	114	66.4	37.2	26.3	20.5	16.9	14.5	11.3	9.3	5.1

FINAL VOLTAGE	Constant Power (W) 20°C											
	5min	15min	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.87	375	250	171	109	65.9	47.8	38.0	31.6	27.3	21.2	17.5	9.5
1.85	407	264	178	112	66.9	48.5	38.3	31.9	27.3	21.4	17.5	9.5
1.83	438	277	183	114	67.5	48.9	38.6	32.0	27.5	21.4	17.6	9.5
1.80	479	293	190	117	68.4	49.4	38.9	32.2	27.6	21.5	17.8	9.5
1.75	514	305	196	119	69.0	49.7	39.3	32.5	27.6	21.5	17.8	9.5
1.70	576	326	204	121	70.2	50.3	39.6	32.5	27.9	21.8	17.8	9.5
1.65	605	335	208	123	70.5	50.3	39.6	32.8	27.9	21.8	17.8	9.5
1.60	624	340	210	124	70.8	50.6	39.6	32.8	27.9	21.8	17.8	9.5



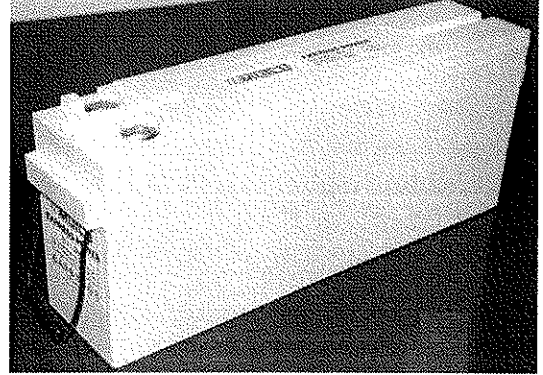
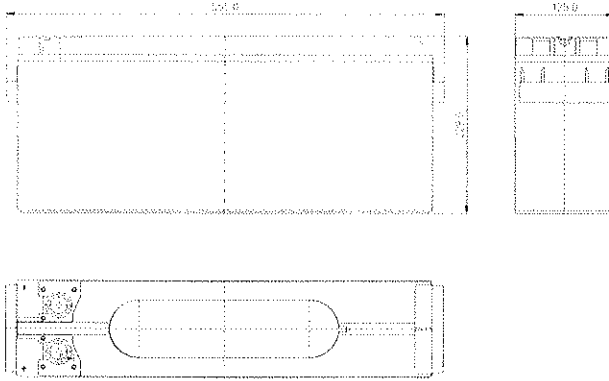
**Mutlu Akü ve Malzemeleri Sanayi A.Ş.**

**Istanbul Factory:** Akfırat Beldesi, Tepeören Mah, Eski Ankara Yolu Üzeri 34959 Tuzla/Istanbul/Turkey  
 Tel: 90 (0216) 304 15 90 PBX Fax: 90 (0216) 304 18 70 E-mail: mailbox@mutlu.com.tr  
**Ankara Office:** Çetin Emec Bulvarı 76. Sk. No: 5 Daire: 34 06460 Öveçler-Ankara/Turkey  
 Tel: 90 (0312) 472 71 50 - 51 Fax: 90 (0312) 472 15 99

[www.mutlu.com.tr](http://www.mutlu.com.tr)



## 12V 150Ah VRLA AKÜ



### TEKNİK KARAKTERİSTİKLER

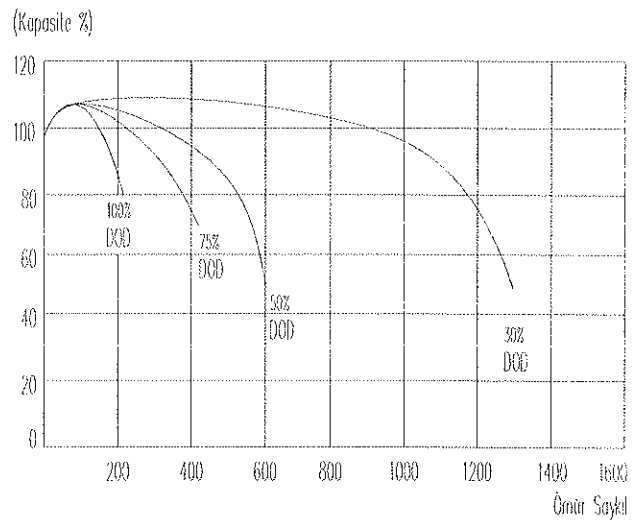
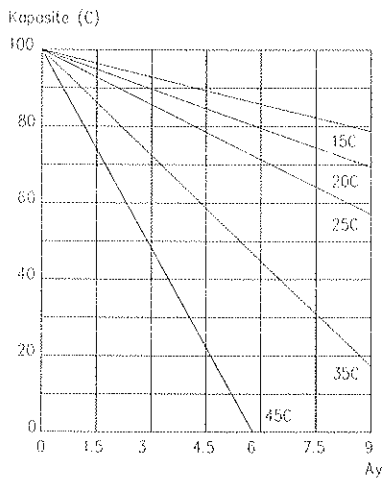
Nominal Gerilim		12V
Nominal Kapasite (K10)		150 Ah
Ölçüler	Yükseklik	12,59" (320 mm)
	Uzunluk	21,85" ( 555 mm)
	Genişlik	4,92" (125 mm)
Ağırlık		126,8 lbs (57,5 kg)
Kapasite 77°F (25°C)	K 20 (8,37 A)	167 Ah
	K 10 (15 A)	150 Ah
	K 5 (27,17 A)	135,9 Ah
	K 3 ( 42,17 A)	126,5 Ah
	K 1 (103,8A) 10,5 V	103,8 Ah
İç Direnç	Şarjlı Akü 77°F (25°C)	3±0,2 mΩ
Sıcaklık - Kapasite Elkisi (K20)	104°F (40°C)	102%
	77°F (25°C)	100%
	32°F (0°C)	85%
	4°F (20°C)	60%
Self-Deşarj 77°F (25°C)	Kapasite (3Ay)	91%
	Kapasite (6Ay)	82%
	Kapasite (9Ay)	64%
Kutupbaşı	M8 Somunu	
Şarj Gerilimi	Max. Şarj Voltajı	14,4 V ±0,02 77°F(25°C)
	Tampon Şarj Voltajı	13,60 V ±0,02 77°F(25°C)

### UYGULAMA ALANLARI

- \* Telekomünikasyon
- \* UPS
- \* Güç İstasyonları
- \* Acil Aydınlatma
- \* Yangın ve Güvenlik Sistemleri
- \* Güç Kontrol Sistemleri
- \* Alternatif Enerji Sistemleri

### AKÜ TAMPON ŞARJI (Sıcaklığa göre)

Sıcaklık °C	Tampon şarj voltajı
5	13,86
10	13,74
15	13,62
20	13,50
25	13,50
30	13,38
35	13,26

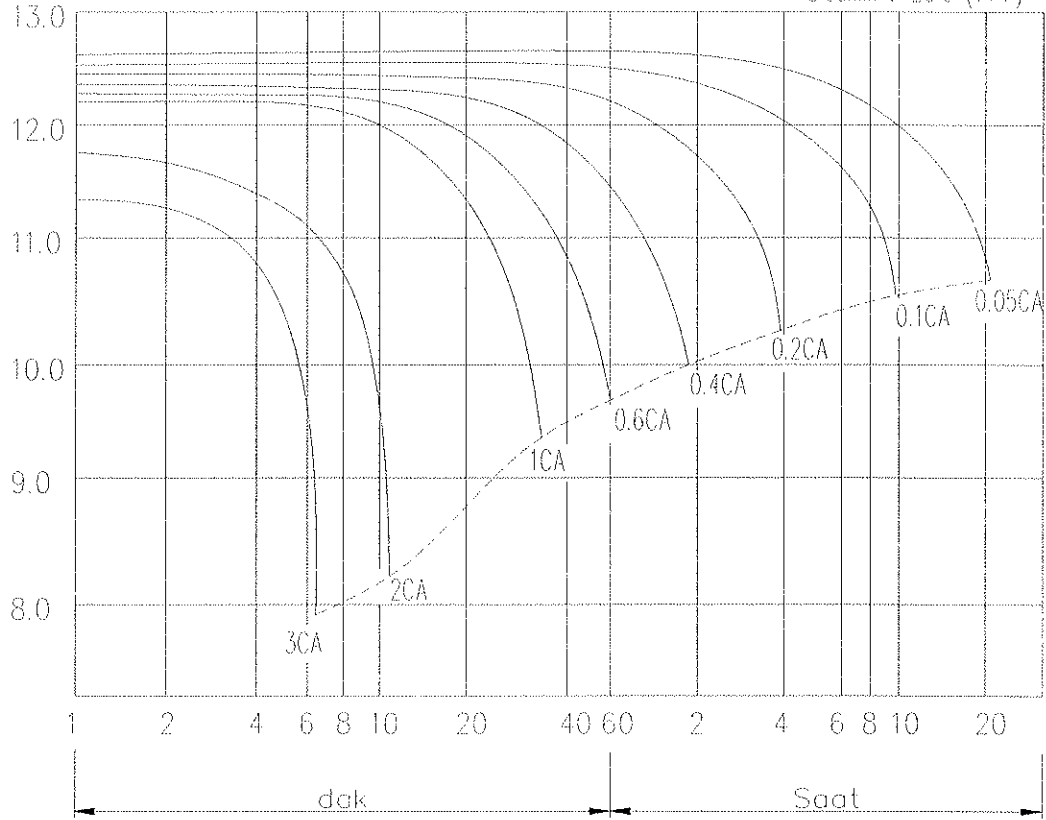


Sabit Akım ( A )												
FİNAL	20°C											
VOLTAJ	5min	15min	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1,87	292	195	135	86,3	51,3	37,2	29,4	24,5	21,0	16,5	13,5	7,5
1,85	322	210	141	88,5	52,1	37,5	29,7	24,6	21,2	16,5	13,7	7,7
1,83	349	219	147	90,5	52,8	38,0	29,9	24,8	21,3	16,7	13,8	7,7
1,80	387	234	151	92,7	53,6	38,3	30,2	24,9	21,3	16,7	13,8	7,7
1,75	442	255	159	95,5	54,5	38,8	30,5	25,0	21,5	16,8	13,8	7,7
1,70	486	267	165	97,5	55,1	39,2	30,6	25,2	21,6	16,8	14,0	7,7
1,65	522	277	169	98,7	55,5	39,3	30,8	25,4	21,6	16,8	14,0	7,7
1,60	547	285	171	99,6	55,8	39,5	30,8	25,4	21,8	17,0	14,0	7,7

Sabit Güç ( W )												
FİNAL	20°C											
VOLTAJ	5min	15min	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1,87	562	375	256	163,5	98,9	71,7	57,0	47,4	41,0	31,8	26,3	14,3
1,85	610	396	267	168,0	100,4	72,8	57,5	47,9	41,0	32,1	26,3	14,3
1,83	657	415	274	171,0	101,3	73,4	57,9	48,0	41,3	32,1	26,4	14,3
1,80	718	439	285	175,5	102,6	74,1	58,4	48,3	41,4	32,3	26,7	14,3
1,75	771	457	294	178,5	103,5	74,6	59,0	48,8	41,4	32,3	26,7	14,3
1,70	864	489	306	181,5	105,3	75,5	59,4	48,8	41,9	32,7	26,7	14,3
1,65	907	502	312	184,5	105,8	75,5	59,4	49,2	41,9	32,7	26,7	14,3
1,60	936	510	315	186,0	106,2	75,9	59,4	49,2	41,9	32,7	26,7	14,3

V (Gerilim)

Sıcaklık : 25°C (77°F)



DEŞARJ SÜRESİ

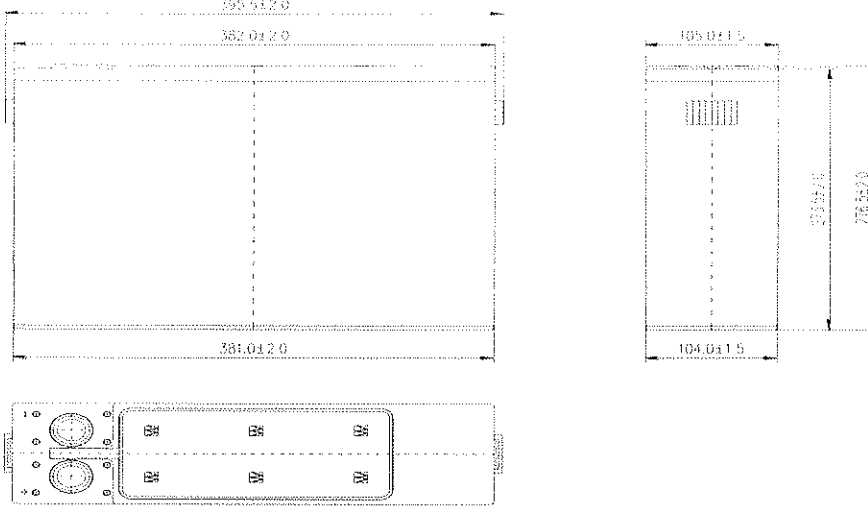
**TEKNİK KARAKTERİSTİKLER**

Nominal Gerilim		12 V
Nominal Kapasite		150 Ah
Ölçüler	Yükseklik	12,59"(320 mm)
	Uzunluk	21,85"(555 mm)
	Genişlik	4,92"(125 mm)
Ağırlık		126,8 lbs (57,5 kg)

Kapasite 77°F (25°C)	K20 (8,37A)	167,4 Ah
	K10 (15A)	150,0 Ah
	K5 (27,17A)	135,9 Ah
	K3 (42,17A)	126,5 Ah
	K1 (103,80A) 10,5 V	103,8 Ah
İç Direnç	Şarjlı Akü 77°F (25°C)	3±0,2 mΩ
Sıcaklık - Kapasite Etkisi (K20)	104°F (40°C)	102%
	77°F (25°C)	100%
	32°F ( 0°C)	85%
	4°F (20°C)	60%
Self-Deşarj 77°F (25°C)	Kapasite (3Ay)	91%
	Kapasite (6Ay)	82%
	Kapasite (9Ay)	64%
Kutupbaşı	M8 Somunlu	
Şarj Gerilimi	Max. Şarj Voltajı	14,1 V ±0,02 77°F(25°C)
	Tampon Şarj Voltajı	13,5 V ±0,02 77°F(25°C)

# 12V 100Ah-SM VRLA AKÜ

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## TEKNİK KARAKTERİSTİKLER

Nominal Gerilim		12V
Nominal Kapasite (K 20)		100 Ah
Ölçüler	Yükseklik	10,94" (278 mm)
	Uzunluk	15,55" (395 mm)
	Genişlik	4,13" (105 mm)
Ağırlık		76,06 lbs (34,5 kg)
Kapasite 77°F (25°C)	K 20 (5A)	100 Ah
	K 10 (9,8A)	98 Ah
	K 5 (17,3A)	86,65 Ah
	K 3 (26,7A)	80 Ah
	K 1 (66,5A) 10,5 V	66,5 Ah
İç Direnç	Şarjlı Akü 77°F (25°C)	4,0±0,2 mΩ
Sıcaklık - Kapasite Etkisi (K20)	104°F (40°C)	102%
	77°F (25°C)	100%
	32°F (0°C)	85%
	4°F (20°C)	60%
Self-Deşarj 77°F (25°C)	Kapasite (3Ay)	91%
	Kapasite (6Ay)	82%
	Kapasite (9Ay)	64%
Kutupbaşı	M8 Somunlu	
Şarj Gerilimi	Max. Şarj Voltajı	14,2 V ±0,02 77°F(25°C)
	Tampon Şarj Voltajı	13,5 V ±0,02 77°F(25°C)

## UYGULAMA ALANLARI

- \* Telekomünikasyon
- \* UPS
- \* Güç İstasyonları
- \* Acil Aydınlatma
- \* Yangın ve Güvenlik Sistemleri
- \* Güç Kontrol Sistemleri
- \* Alternatif Enerji Sistemleri

## AKÜ TAMPON ŞARJI (Sıcaklığa göre)

Sıcaklık °C	Tampon şarj voltajı
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