

BN Bezprekidno napajanje

Upute za uporabu



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1 Važne informacije za korisnike

MJERE OPREZA

NEPRAVILNA UPORABA OVOG UREĐAJA MOŽE IZAZVATI ŠTETU, ELEKTRIČNI ŠOK, TJELESNU POVREDU I SMRT!

OPASNOST PO ŽIVOT!

Potreban je dodatni oprez kada se koristi napon veći od 30Vac rms, 42Vac peak, ili 60Vdc!

Ove upute su sastavljene u obliku kratkih smjernica za industrijsku kontrolnu i automatizacijsku opremu koju proizvodi Mikrotrend d.o.o. Zbog raznovrsne uporabe Proizvoda koji je opisan u ovom dokumentu, osobe zadužene za primjenu i korištenje Proizvoda moraju se uvjeriti da su poduzete odgovarajuće mjere da bi se osiguralo da svaka primjena i uporaba ispunji zahtjeve radnog učinka i sigurnosti, uključujući sve važeće mjerodavne zakone, uredbe, propise i standarde. Ne smije se isključivo oslanjati na priručnik za korisnike i isporučenu tehničku dokumentaciju. Ilustracije, grafikoni, dijagrami i uzorci shema koji su prikazani u tehničkoj dokumentaciji služe samo kao primjeri. S obzirom da postoji puno varijabli i zahtjeva povezanih sa svakom pojedinačnom instalacijom, Mikrotrend d.o.o. ne može preuzeti odgovornost ili obvezu (uključujući povredu intelektualnog vlasništva) za prikladnost navedenih primjera u stvarnim uvjetima korištenja proizvoda. Mikrotrend d.o.o. zadržava pravo izmijene značajki i tehničkih svojstava svojih Proizvoda u bilo kojem trenutku, bez prethodne najave. Pretisak, umnožavanje ili prenošenje tekstova, grafike i slikovnog materijala u cijelosti ili djelomično nije dopušteno bez pismene suglasnosti Mikrotrend d.o.o.

OPĆENITO

- Koristite uređaj samo za namjene predviđene u ovom priručniku.
- Uređaj ne smije biti dostupan i ne smije se koristiti u prisustvu djece ili nesposobnih osoba.
- Uređaj smiju koristiti samo osobe osposobljene za korištenje uređaja.
- Nemojte vući ili deformirati mrežni kabel. Navlačenje i nepravilno korištenje mrežnog kabla može dovesti do kvara uređaja ili strujnog udara.
- Ne koristite oštećene kablove.
- Ne dirajte uređaj mokrim rukama. Može doći do električnog udara.
- Poštujte propise za spajanje mrežnog kabla. Uređaj spajajte samo na utičnicu sa standardnim naponom (220...240Vac, 50Hz). Nepropisno spajanje kabla može ugroziti život i/ili izazvati požar.
- Nemojte prekriti ventilacijske otvore na uređaju.
- Ne otvarajte uređaj, nema osigurača i sl. unutar uređaja koje bi korisnik mogao servisirati.
- Ne umećite nikakve predmete u otvore za ventilaciju uređaja.
- Ne pokušavajte sami servisirati uređaj, jer to može dovesti do još težeg kvara, električnog udara, požara i sl.
- Nakon korištenja uređaja odspojite mrežni kabel.
- Ne stavljajte nikave predmete i nemojte stati na uređaj.
- Ovaj uređaj ne smiju koristiti osobe sa ugrađenim pacemakerom.
- Uvijek koristite uređaj na odgovarajućim mjernim područjima.

OKOLINA

- Koristite uređaj oprezno, pazite da na njega ne padaju teški predmeti, ne polijevajte ga tekućinom, ne izlažite ga jakoj prašini, dimu, mehaničkim vibracijama i elektrošokovima
- Ne koristite uređaj u blizini vode.
- Držite uređaj dalje od izvora topline, radijatora, pećnica i sl. Kada je temperatura ambijenta veća od +45°C uređaj koristite sa prikladno smanjenim opterećenjem.
- Ne koristite uređaj u blizini zapaljivih plinova ili para.
- Ovaj uređaj može stvoriti jaka magnetska polja i zbog toga se ne smije koristiti u blizini medicinske opreme.

UPOZORENJE

- Da bi spriječili opasnost od strujnog udara, ne izlažite uređaj kiši, vlazi i sl.
- Ukoliko primjetite da iz uređaja izlazi dim, čudan miris ili neuobičajena buka, isključite ga iz napajanja. Ovo može dovesti do strujnog udara ili požara. Uvjerite se da je dim prestao izlaziti i kontaktirajte ovlaštenog servisera.

ZBRINJAVANJE OTPADA

- Kada bacite ovaj uređaj na otpad, ne miješajte ga s kućnim otpadom. Poštujte sve lokalne propise o zbrinjavanju otpada

2 Karakteristični podaci

Karakteristični podaci dani u Tehničkoj dokumentaciji služe **samo kao vodič** za korisnike pri određivanju prikladnosti proizvoda za određenu namjenu i ne predstavljaju bilo kakvo jamstvo da će biti ostvareni u primjeni. Ti podaci mogu predstavljati rezultate ubrzanih ispitivanja i/ili pri povišenom opterećenju, a korisnik je odgovoran za usklađivanje podataka sa stvarnim zahtjevima u primjeni.

SVA JAMSTVA VEZANA UZ UČINAK PROIZVODA, BILO DA SU EKSPPLICITNA ILI IMPLICITNA, IZRIČITO SE NE PRIZNAJU.

3 JAMSTVENA IZJAVA

Molimo Vas da prije upotrebe Proizvoda pažljivo pročitate Upute za uporabu.

JAMSTVO

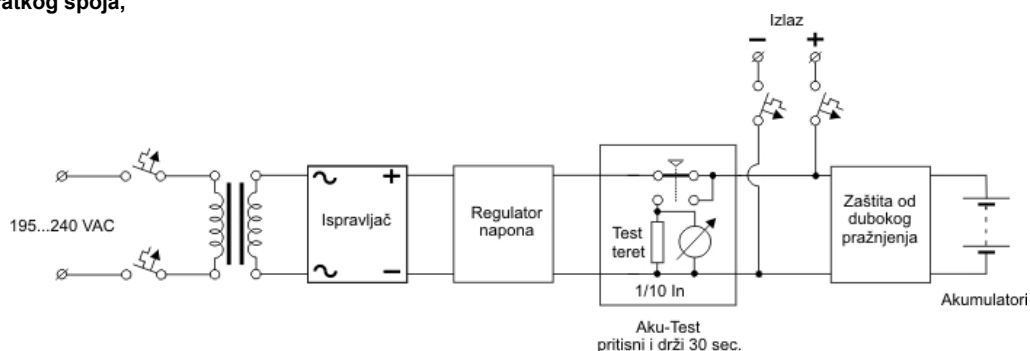
Sve eventualne greške i kvarove na Proizvodu koji su nastali zbog greške u radu i materijalu u jamstvenom roku ćemo otkloniti o svom trošku u ovlaštenom servisu.

UVJETI JAMSTVA

1. Jamstveni rok počinje teći s danom isporuke Proizvoda i traje 12 mjeseci.
2. U slučaju kvara na Proizvodu koji je predmet ovog jamstva, isti se obavezujemo popraviti u najkraćem mogućem roku, a ne dužim od 45 dana.
Ako Proizvod nije moguće popraviti ili se ne popravi u roku od 45 dana, zamijenit će se drugim, istim ili sličnim.
3. Ako popravak traje duže od 10 dana, jamstvo se produljuje za vrijeme trajanja popravka.
4. Troškovi prijevoza Proizvoda u jamstvenom roku izvan mjesta sjedišta najbližeg ovlaštenog servisa idu na teret davaoca jamstva, a priznaju se u iznosu i tarifi javnog prijevoza (pošta, željeznica, itd).
Kupac je dužan poslati Proizvod na popravak u originalnoj ambalaži.
Štete uzrokovane transportom idu na račun i rizik kupca.
5. Jamstvo se priznaje samo uz jamstvenu izjavu i račun o kupnji.
6. Jamstvo ne obuhvaća:
 - Redovnu provjeru i održavanje uz zamjenu dijelova koji se troše normalnom uporabom.
 - Prilagođavanje ili promjene za poboljšanje Proizvoda za primjenu koja nije opisana u tehničkim Uputama za uporabu, osim ako je za te preinake dobivena suglasnost davaoca jamstva.
7. Jamstvo se ne priznaje u sljedećim slučajevima:
 - Ako kupac ne predoči ispravnu jamstvenu izjavu i račun o kupnji.
 - Ako je serijski broj Proizvoda preinačen ili uklonjen.
 - Ako se kupac nije pridržavao Uputa za uporabu Proizvoda.
 - Ako je Proizvod bio otvaran, prepravljn ili popravljan od neovlaštene osobe.
 - Ako su kvarovi na Proizvodu nastali djelovanjem više sile (udar groma, strujni udar, elementarne nepogode i sl.)
 - Ako su kvarovi nastali zbog nepropisne uporabe ili nepravilnim transportiranjem.
 - Ako je kvar nastao greškom u sustavu na koji je Proizvod priključen.
 - Ako je kvar nastao uslijed mehaničkog oštećenja (pada, loma...).
8. Ovo jamstvo ne mijenja zakonska potrošačka prava važeća u Hrvatskoj u odnosu na ona koja propisuje proizvođač.
9. Za ovaj Proizvod osigurano je servisno održavanje i rezervni dijelovi za isti u trajanju od 7 godina od dana kupnje Proizvoda.
10. Svi ostali uvjeti prema važećim Općim pravilima i uvjetima poslovanja

4 Tehnička specifikacija

Bezprekidno napajanje za elektroničke uređaje, releje zaštite i sl.
 Automatski punjač akumulatora sa linearnim regulatorom (non-switching),
 Zaštita od dubokog pražnjenja akumulatora,
 Aku-test,
 Zaštita od kratkog spoja,

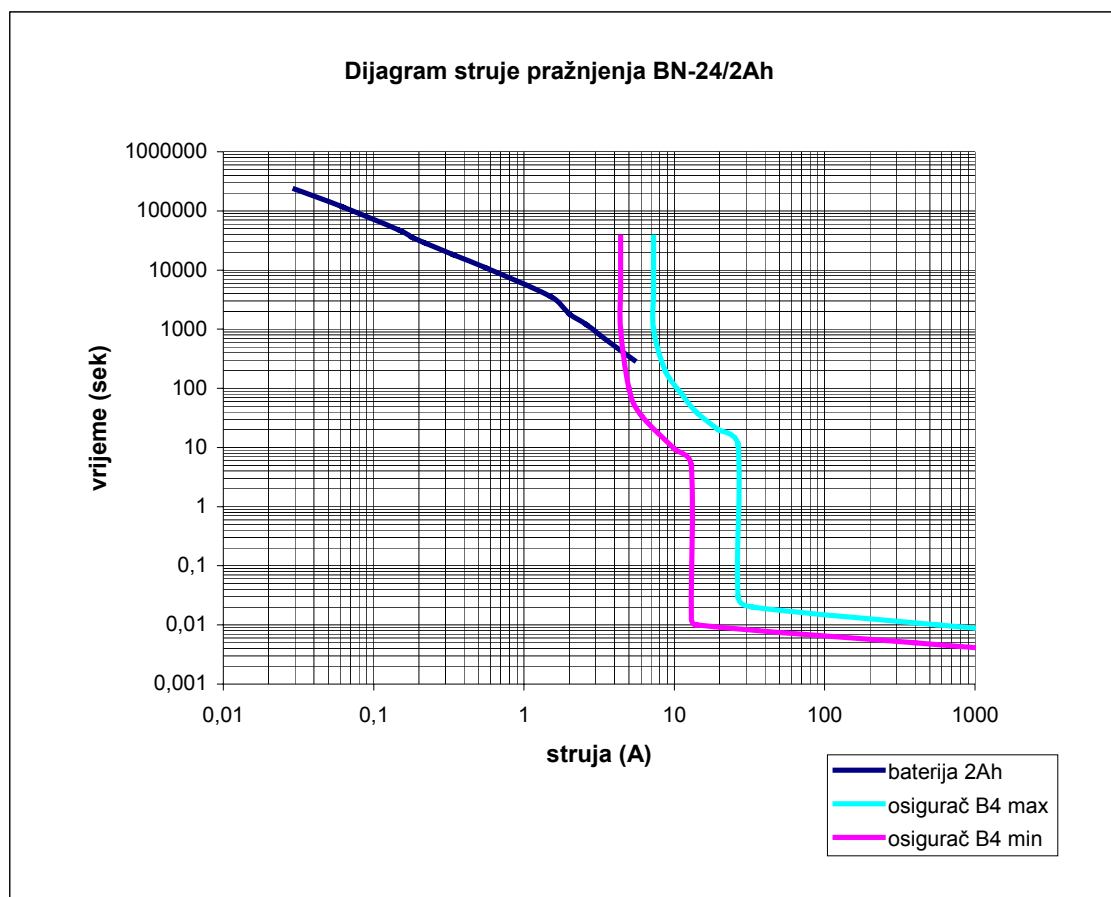


Blok shema

4.1 - BN-24/2Ah

Tehnička specifikacija:

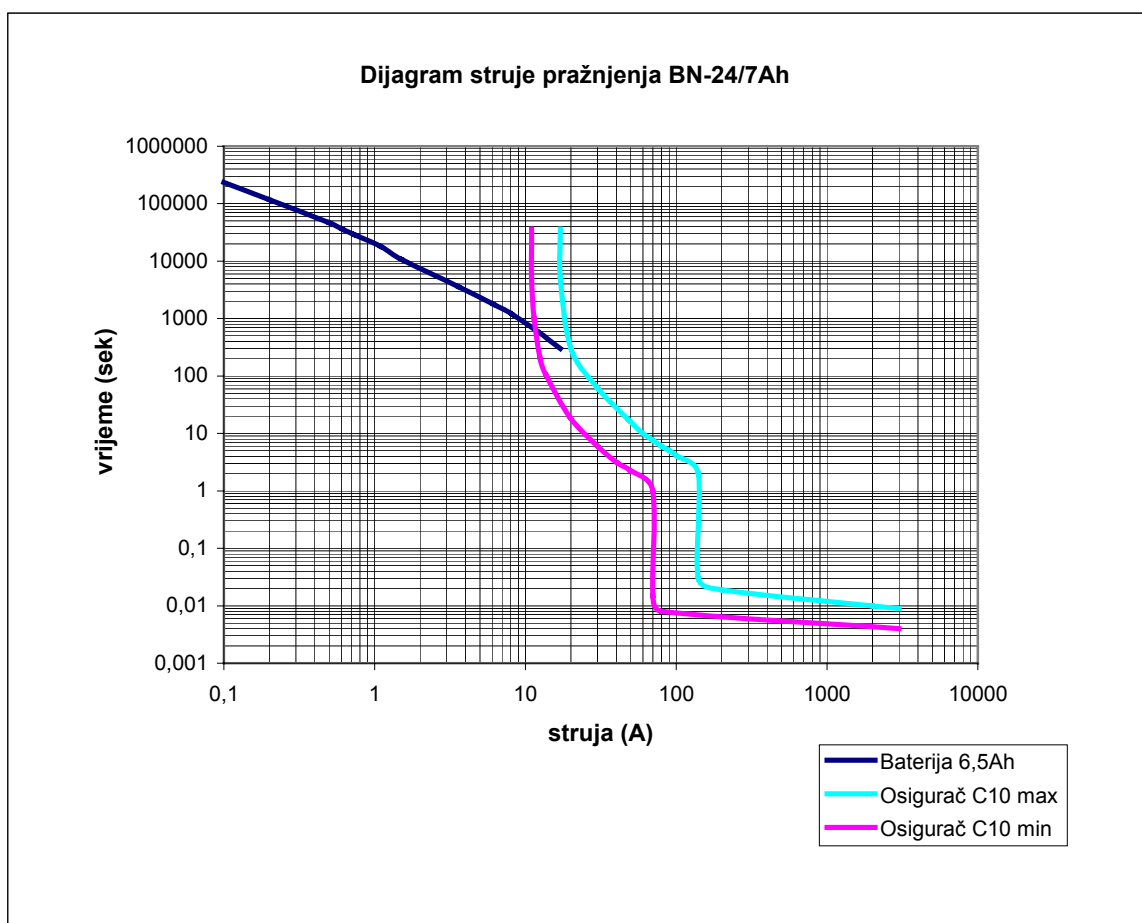
Napajanje: 195...240 Vac, 0.1 A max.,
Osigurač: B4A,
Izlazni napon (bez tereta): 27.5 Vdc, valovitost 50 mVpp max.,
Duboko pražnjenje: 18 Vdc min,
Izlazna struja (Akumulatori): vidjeti dijagram struje pražnjenja,
Izlazna struja (Punjač): 0.5 A max.,
Struja punjenja: 1 A max.,
Vrijeme punjenja: 14 h max.,
Akumulatori: Sonnenschein, A512/2S, 2 komada
Radna temperatura: -20...+50°C,
Temperatura skladištenja: -40...+60°C,
Relativna vlaga: manje od 95%, nekondenzirajuća,
Zaštita kućišta: IP60,
Dimenzije: 500×400×150 mm



4.2 - BN-24/7Ah

Tehnička specifikacija:

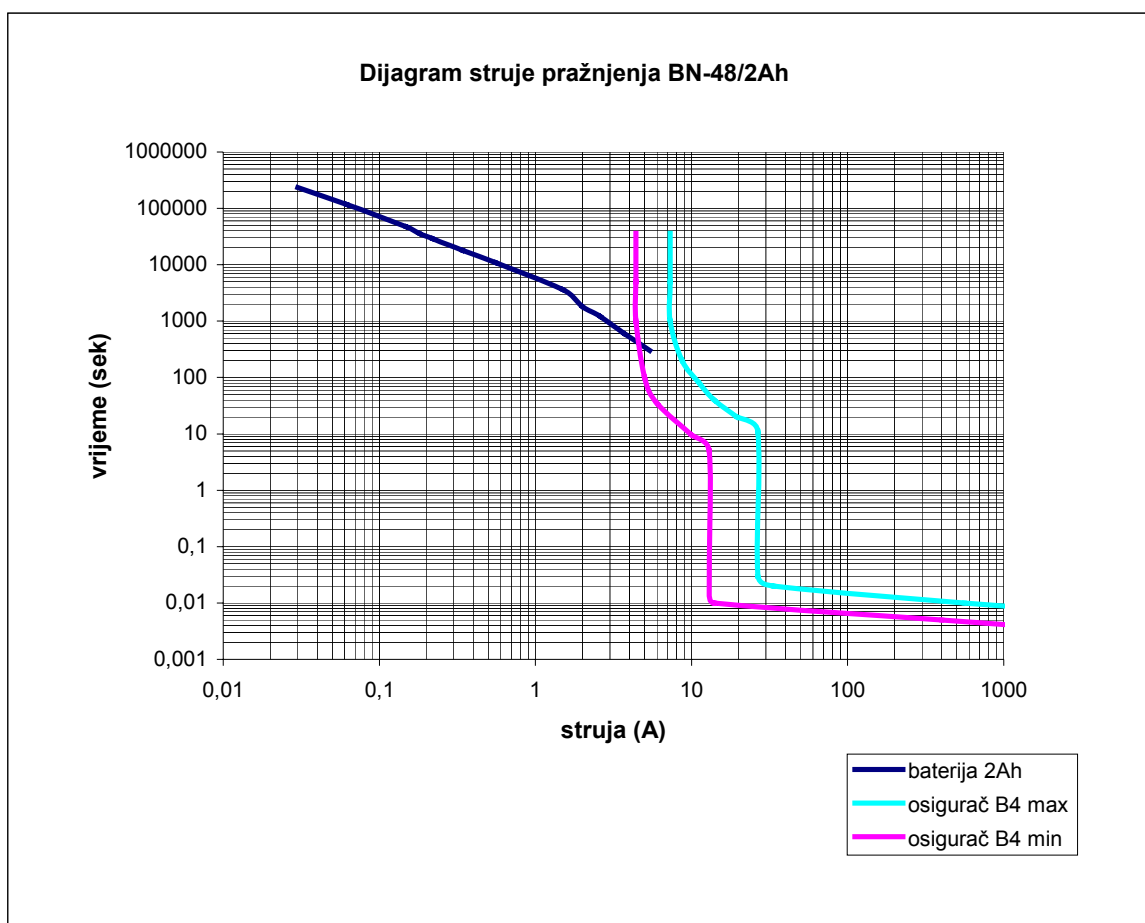
Napajanje: 195...240 Vac, 0.1 A max.,
Osigurač: C10A,
Izlazni napon (bez tereta): 27.5 Vdc, valovitost 50 mVpp max.,
Duboko pražnjenje: 18 Vdc min,
Izlazna struja (Akumulatori): vidi dijagram struje pražnjenja,
Izlazna struja (Punjač): 0.5 A max.,
Struja punjenja: 1 A max.,
Vrijeme punjenja: 14 h max.,
Akumulatori: Sonnenschein, A512/6.5S, 2 komada
Radna temperatura: -20...+50°C,
Temperatura skladištenja: -40...+60°C,
Relativna vlaga: manje od 95%, nekondenzirajuća,
Zaštita kućišta: IP60,
Dimenzije: 500×400×150 mm



4.3 - BN-48/2Ah

Tehnička specifikacija:

Napajanje: 195...240 Vac, 0.1 A max.,
Osigurač: B4A,
Izlazni napon (bez tereta): 55 Vdc, valovitost 50 mVpp max.,
Duboko pražnjenje: 36 Vdc min,
Izlazna struja (Akumulatori): vidi dijagram struje pražnjenja,
Izlazna struja (Punjač): 0.5 A max.,
Struja punjenja: 1 A max.,
Vrijeme punjenja: 14 h max.,
Akumulatori: Sonnenschein, A512/2S, 4 komada
Radna temperatura: -20...+50°C,
Temperatura skladištenja: -40...+60°C,
Relativna vlaga: manje od 95%, nekondenzirajuća,
Zaštita kućišta: IP60,
Dimenzije: 500×400×150 mm



4.4. - BN-48/7Ah

Tehnička specifikacija:

Napajanje: 195...240 Vac, 0.1 A max.,

Osigurač: C10A,

Izlazni napon (bez tereta): 55 Vdc, valovitost 50 mVpp max.,

Duboko pražnjenje: 36 Vdc min,

Izlazna struja (Akumulatori): vidi dijagram struje pražnjenja,

Izlazna struja (Punjač): 0.5 A max.,

Struja punjenja: 1 A max.,

Vrijeme punjenja: 14 h max.,

Akumulatori: Sonnenschein, A512/6.5S, 4 komada

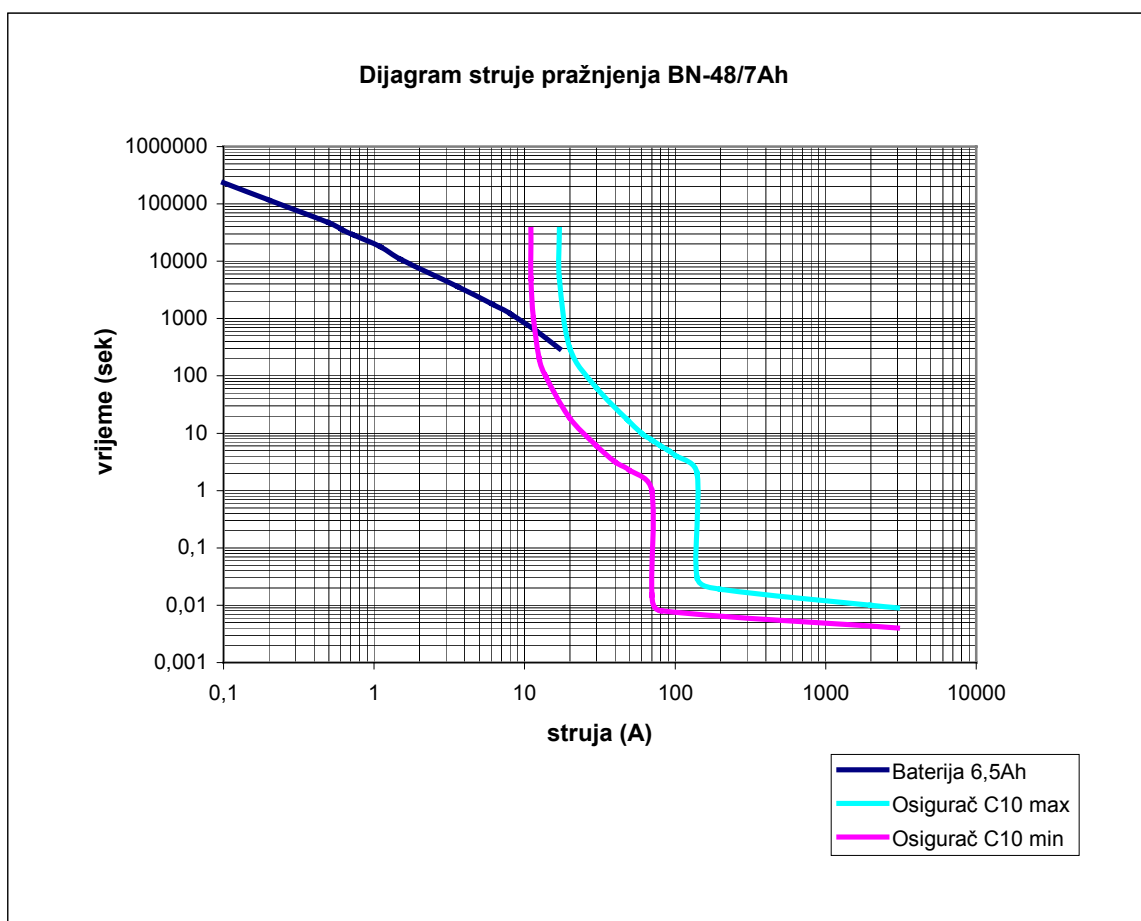
Radna temperatura: -20...+50°C,

Temperatura skladištenja: -40...+60°C,

Relativna vlaga: manje od 95%, nekondenzirajuća,

Zaštita kućišta: IP60,

Dimenzije: 600×400×150 mm



4.5 - BN-110/2Ah

Tehnička specifikacija:

Napajanje: 195...240 Vac, 0.1 A max.,

Osigurač: B4A,

Izlazni napon (bez tereta): 124,5 Vdc, valovitost 50 mVpp max.,

Duboko pražnjenje: 94,5 Vdc min,

Izlazna struja (Akumulatori): vidi dijagram struje pražnjenja,

Izlazna struja (Punjač): 0.5 A max.,

Struja punjenja: 1 A max.,

Vrijeme punjenja: 14 h max.,

Akumulatori: Sonnenschein, A512/2S, 9 komada

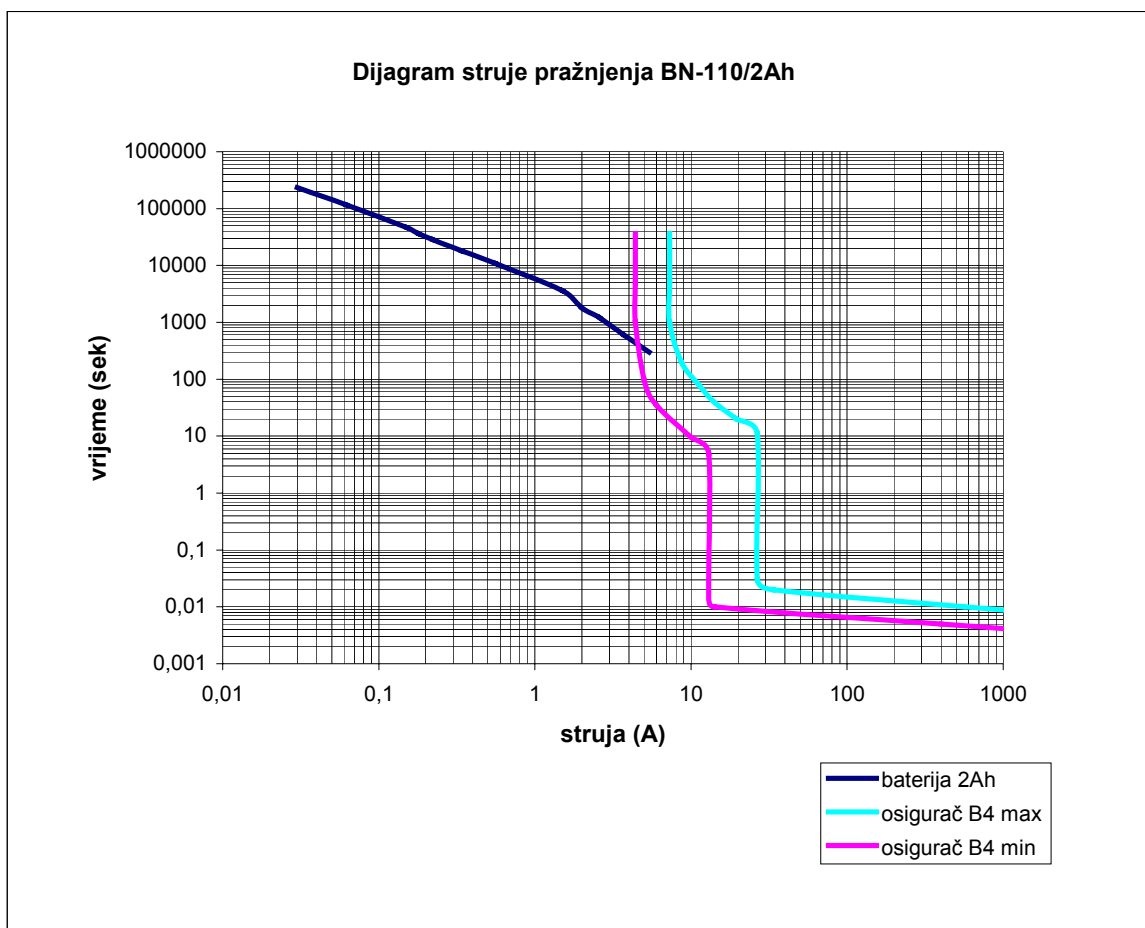
Radna temperatura: -20...+50°C,

Temperatura skladištenja: -40...+60°C,

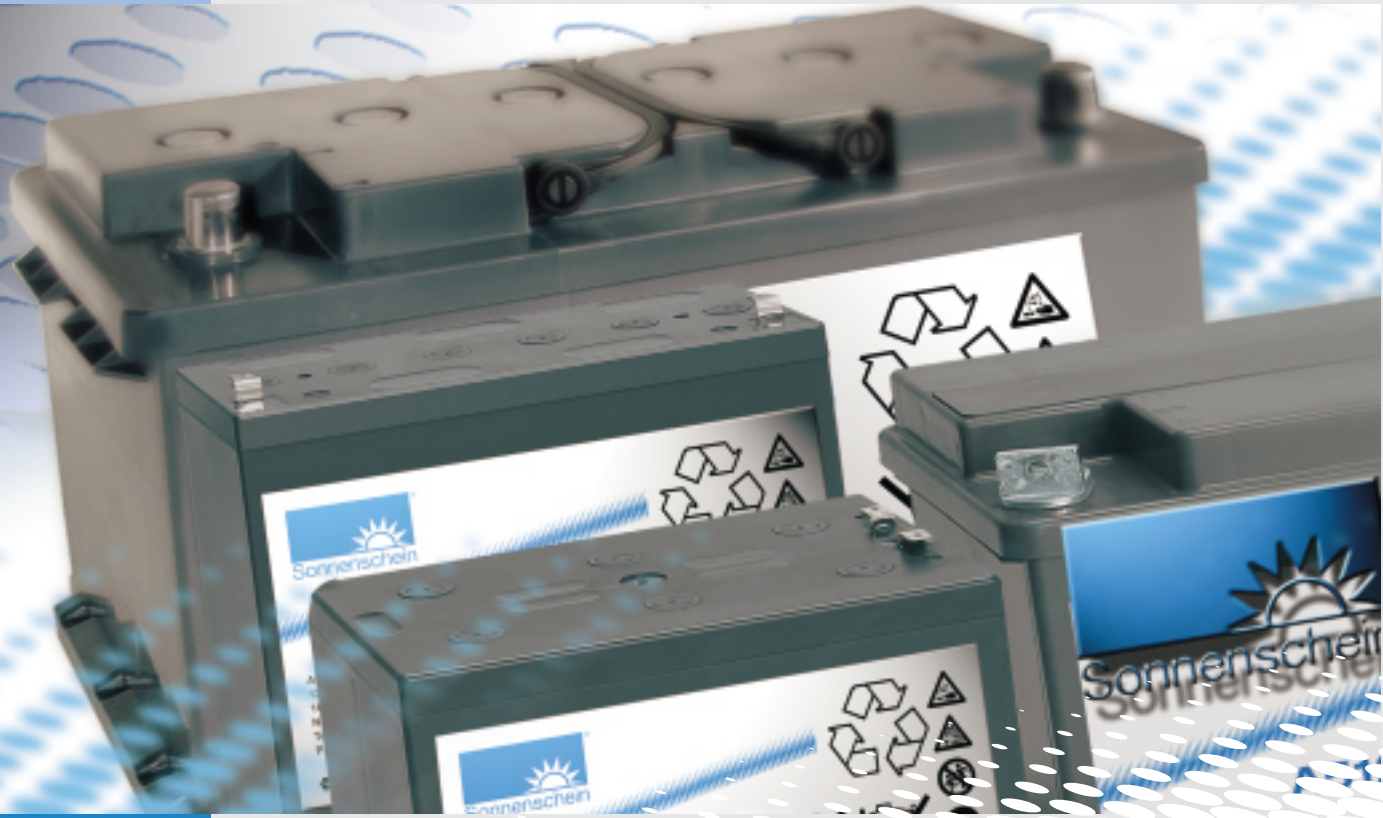
Relativna vlaga: manje od 95%, nekondenzirajuća,

Zaštita kućišta: IP60,

Dimenzije: 500×400×150 mm



5 Prilog: Specifikacija baterija



Industrial Batteries – Sonnenschein A500
A powerful, universal safety package.

Specifications

- The success of A500 batteries comes from the internationally superior dryfit technology.
- Excellent energy storage capacity combined with high reliability
- Maintenance-free during their whole service life due to the Sonnenschein dryfit technology
- Nominal capacity 1.2 – 200 Ah
- 7 years design life at 20°C ambient temperature (80% remaining capacity)
- Grid plate construction consisting of a lead calcium alloy
- Very low gassing due to the internal gas recombination
- Very low self discharge rate
- Short recharging time
- Proof against deep discharge according to DIN 43 539 T5
- Trouble-free transportation of operational blocs, no restrictions for rail, road, sea and air transportation (IATA, DGR clause A 67)
- Completely recyclable



Applications

Sonnenschein A500 batteries make an absolutely reliable means of energy source in many applications including telecommunications, security, UPS, emergency lighting, medical and other power supplies for safety systems.



Valve regulated lead acid batteries



Grid plate



Nominal capacity 1.2 - 200 Ah



Bloc battery



Design life: 7 years



Maintenance-free



Proof against deep discharge acc. to DIN 43 539 T5



Recyclable

Type	Part number	Nominal voltage	Nominal capacity	Discharge current	Max. load*	Length	Width	Height up to top of cover	Height over terminals	Weight	Internal resistance acc. to IEC 896-2	Short circuit current acc. to IEC 896-2	Terminal	VdS approval
		V	C ₂₀ 1.75 V/C 20°C Ah	I ₂₀ A	approx. A	max. mm	max. mm	max. mm	max. mm	approx. kg	m Ω	A		
A502/10 S	NGA5020010HSOSA	2	10.0	0.500	80	52.9	50.5	94.5	98.4	0.70	11.2	189	S-4.8	
A504/3.5 S	NGA50403D5HSOSA	4	3.5	0.175	60	90.5	34.5	60.5	64.4	0.50	48.0	88	S-4.8	
A506/1.2 S	NGA50601D2HSOSA	6	1.2	0.060	30	97.3	25.5	51.0	54.9	0.33	165.0	38	S-4.8	
A506/3.5 S	NGA50603D5HSOSA	6	3.5	0.175	60	134.5	34.5	60.5	64.4	0.75	71.0	88	S-4.8	
A506/4.2 S	NGA50604D2HSOSA	6	4.2	0.210	60	62.3	52.0	98.0	101.9	0.90	63.8	98	S-4.8	
A506/6.5 S	NGA50606D5HSOSA	6	6.5	0.325	80	151.5	34.5	94.5	98.4	1.33	48.0	131	S-4.8	
A506/10 S	NGA5060010HSOSA	6	10.0	0.500	80	151.7	50.5	94.5	98.4	2.05	34.0	189	S-4.8	G 189230
A508/3.5 S	NGA50803D5HSOSA	8	3.5	0.175	60	178.5	34.1	60.5	64.4	1.00	95.0	88	S-4.8	
A512/1.2 S	NGA51201D2HSOSA	12	1.2	0.060	30	97.5	49.5	51.0	54.9	0.66	330.0	38	S-4.8	G 195088
A512/2 S	NGA5120002HSOSA	12	2.0	0.050	40	178.5	34.1	60.5	64.4	1.00	172.0	73	S-4.8	G 191016
A512/3.5 S	NGA51203D5HSOSA	12	3.5	0.175	60	134.5	66.8	60.5	64.4	1.50	142.0	88	S-4.8	G 190045
A512/6.5 S	NGA51206D5HSOSA	12	6.5	0.325	80	151.7	65.5	94.5	98.4	2.60	95.0	131	S-4.8	G 189023
A512/10 S	NGA5120010HSOSA	12	10.0	0.500	80	152.0	98.0	94.5	98.4	4.00	66.0	189	S-4.8	G 189231
A512/16 G5	NGA5120016HSOBA	12	16.0	0.800	200	181.0	76.0	167.0	167.0	6.00	24.2	512	G-M5	G 189232
A512/25 G5	NGA5120025HSOBA	12	25.0	1.250	200	167.0	176.0	126.0	126.0	9.65	21.3	583	G-M5	G 196025
A512/30 G6	NGA5120030HSOBA	12	30.0	1.500	400	197.0	132.0	161.0	180.0	11.10	13.1	932	G-M6	G 191047
A512/40 A	NGA5120040HSOCA	12	40.0	2.000	400	210.0	175.0	175.0	175.0	14.60	11.6	1069	A-Terminal	G 191015
A512/40 G6	NGA5120040HSOBA	12	40.0	2.000	400	210.0	175.0	175.0	175.0	14.60	11.6	1069	G-M6	G 191015
A512/55 A	NGA5120055HSOCA	12	55.0	2.750	400	261.0	136.0	208.0	230.0	18.80	8.9	1403	A-Terminal	
A512/60 A	NGA5120060HSOCA	12	60.0	3.000	400	278.0	175.0	190.0	190.0	21.70	6.6	1887	A-Terminal	
A512/60 G6	NGA5120060HSOBA	12	60.0	3.000	400	278.0	175.0	190.0	190.0	21.70	6.6	1887	G-M6	
A512/65 A	NGA5120065HSOCA	12	65.0	3.250	400	353.0	175.0	190.0	190.0	24.40	8.5	1471	A-Terminal	
A512/65 G6	NGA5120065HSOBA	12	65.0	3.250	400	353.0	175.0	190.0	190.0	24.40	8.5	1471	G-M6	
A512/85 A	NGA5120085HSOCA	12	85.0	4.250	600	330.0	171.0	213.0	236.0	31.00	6.2	2018	A-Terminal	G190046
A512/115 A	NGA5120115HSOCA	12	115.0	5.750	770	286.0	269.0	208.0	230.0	40.00	4.6	2660	A-Terminal	
A512/120 A	NGA5120120HSOCA	12	120.0	6.000	770	513.0	189.0	195.0	223.0	41.00	5.2	2475	A-Terminal	
A512/140 A	NGA5120140HSOCA	12	140.0	7.000	770	513.0	223.0	195.0	223.0	48.00	4.1	3132	A-Terminal	
A512/200 A	NGA5120200HSOCA	12	200.0	10.000	770	518.0	274.0	216.0	242.0	70.00	3.5	3606	A-Terminal	

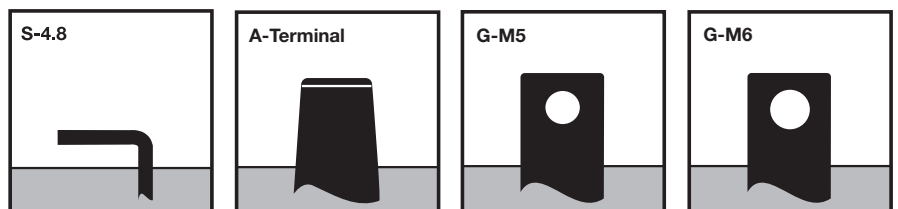
*With suitable matching contacts

Container and approval

Container: 1.2–16 Ah = ABS
25–200 Ah = Polypropylene (PP)

Approval: Underwriters Laboratories (UL), USA
VdS (Types see above)
DIN/Gost/TÜV, Russia

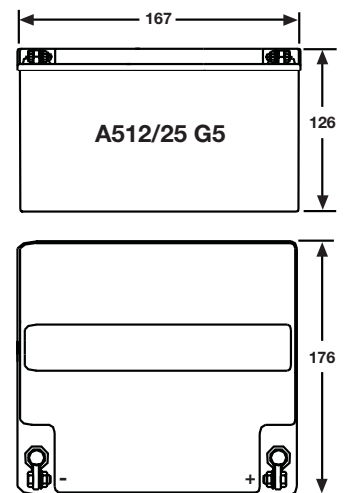
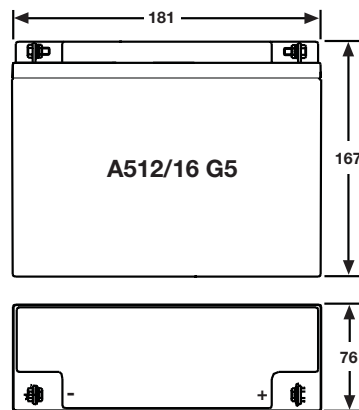
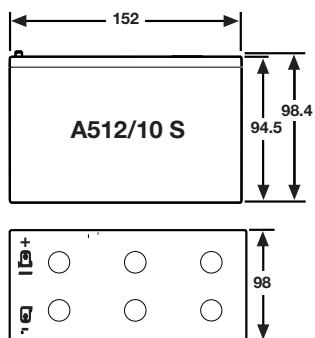
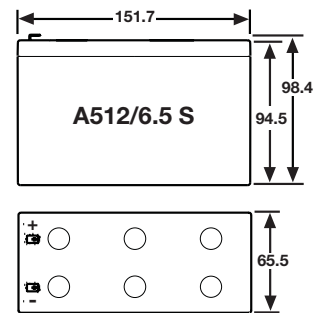
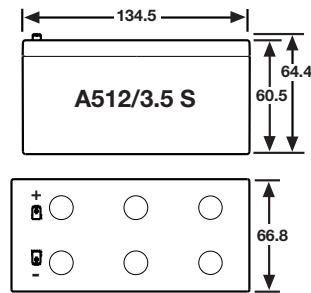
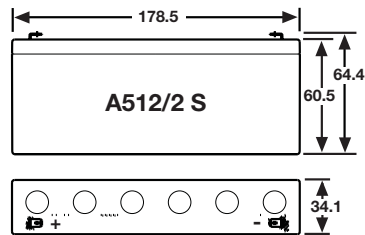
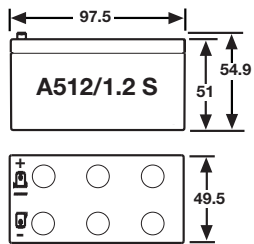
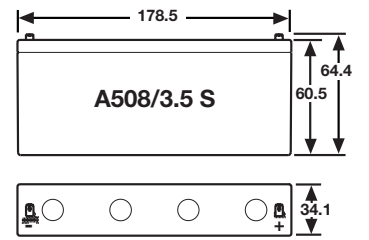
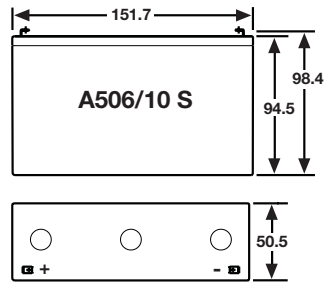
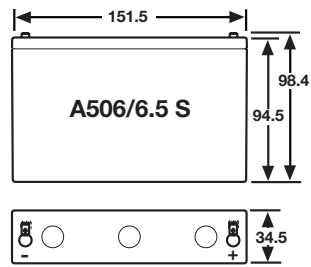
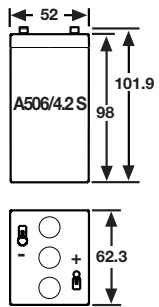
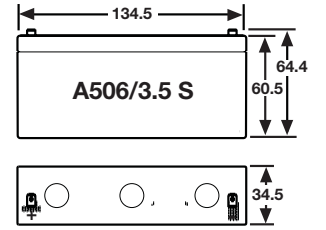
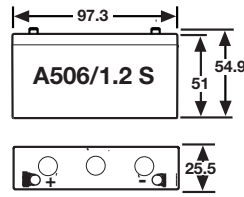
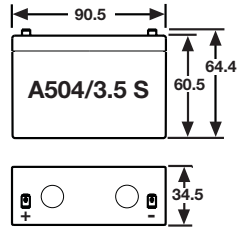
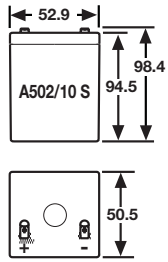
Terminal and torque



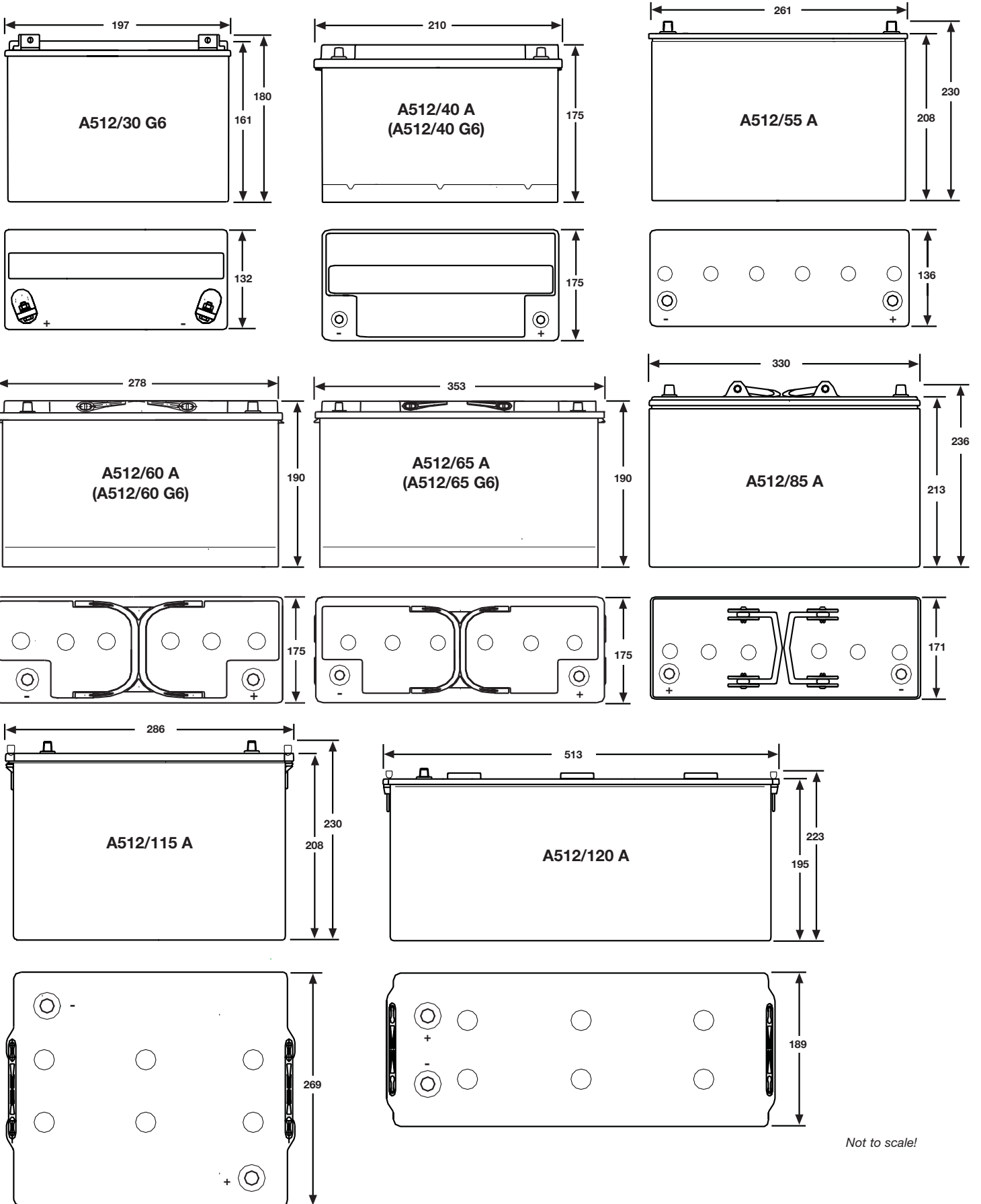
8 Nm

5 Nm

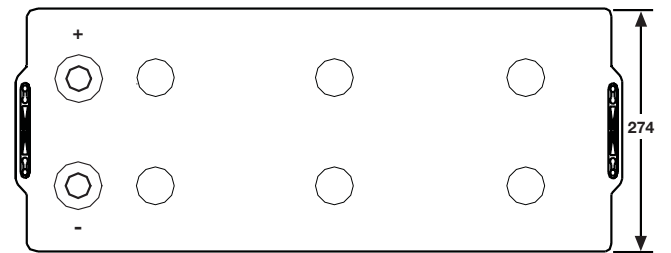
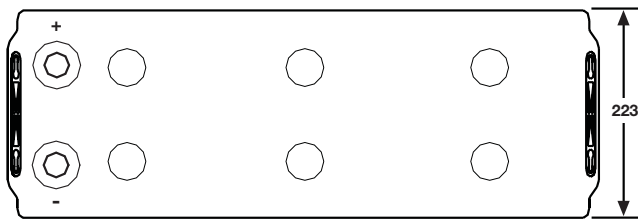
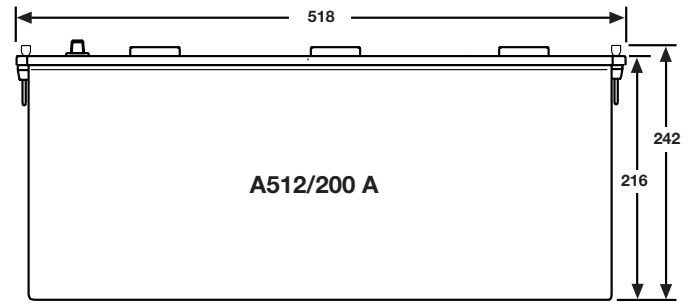
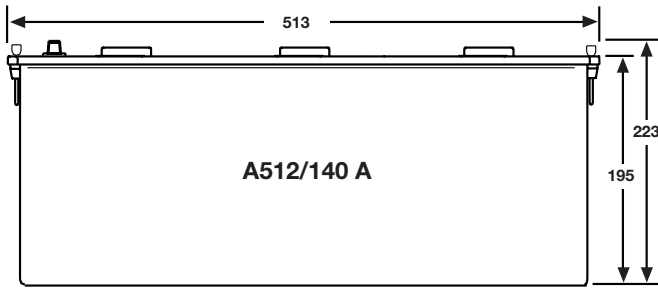
6 Nm



Not to scale!

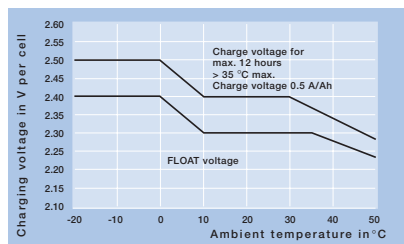


Not to scale!



Not to scale!

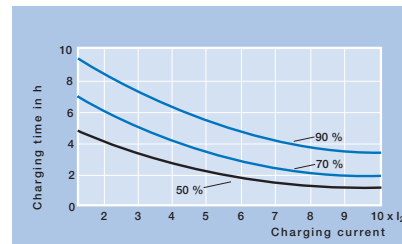
Technical data at a glance



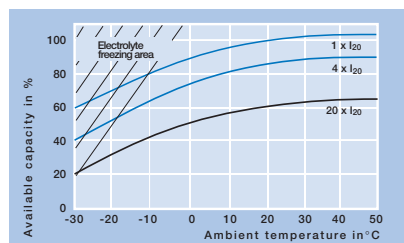
Constant charge voltages for various ambient temperatures.

Note:

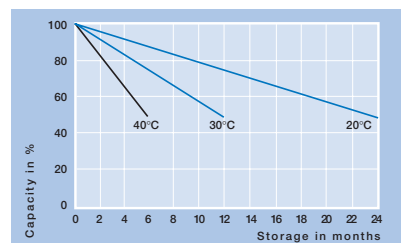
For charge voltages > 2.4 V per cell the charging current must be limited to max. 0.4 A/Ah.



Recharging time in relation to initial current up to 50%, 70% and 90% charging state, charging voltage 2.4 V/cell.



Available capacity in relation to the ambient temperature.



Self-discharge in relation to the storage temperature.

1.85 V/C – Discharge in A at 20°C											1.80 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h	
A502/10S	NGA5020010HSOSA	30.00	22.00	15.00	11.20	6.40	2.80	1.80	1.18	0.96	33.00	24.00	16.00	11.90	6.80	2.90	1.90	1.23	1.00	
A504/3.5S	NGA50403D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.32	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A506/1.2S	NGA50601D2HSOSA	3.52	2.44	1.58	1.20	0.75	0.34	0.21	0.13	0.10	3.92	2.67	1.69	1.26	0.77	0.35	0.21	0.13	0.10	
A506/3.5S	NGA50603D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.32	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A506/4.2S	NGA50604D2HSOSA	9.90	6.30	4.20	3.40	2.40	1.22	0.75	0.49	0.39	11.70	6.70	4.40	3.40	2.40	1.24	0.77	0.50	0.40	
A506/6.5S	NGA50606D5HSOSA	17.00	12.00	8.10	6.10	3.60	1.50	1.10	0.73	0.61	19.00	13.00	8.80	6.50	3.80	1.60	1.10	0.75	0.63	
A506/10S	NGA5060010HSOSA	30.00	22.00	15.00	11.20	6.40	2.80	1.80	1.18	0.96	33.00	24.00	16.00	11.90	6.80	2.90	1.90	1.23	1.00	
A508/3.5S	NGA50803D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.3	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A512/1.2S	NGA51201D2HSOSA	3.52	2.44	1.58	1.20	0.75	0.34	0.21	0.13	0.10	3.92	2.67	1.69	1.26	0.77	0.35	0.21	0.13	0.10	
A512/2S	NGA5120002HSOSA	5.40	3.70	2.60	2.00	1.50	0.56	0.34	0.22	0.18	6.20	4.20	2.80	2.10	1.50	0.58	0.36	0.23	0.19	
A512/3.5S	NGA51203D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.32	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A512/6.5S	NGA51206D5HSOSA	17.00	12.00	8.10	6.10	3.60	1.50	1.10	0.73	0.61	19.00	13.00	8.80	6.50	3.80	1.60	1.10	0.75	0.63	
A512/10S	NGA5120010HSOSA	30.00	22.00	15.00	11.20	6.40	2.80	1.80	1.18	0.96	33.00	24.00	16.00	11.90	6.80	2.90	1.90	1.23	1.00	
A512/16G5	NGA5120016HSOBA	40.0	29.0	20.0	15.0	9.8	4.3	2.7	1.8	1.4	47.0	33.0	22.0	16.0	10.2	4.4	2.8	1.8	1.5	
A512/25G5	NGA5120025HSOBA	41.1	36.2	24.8	20.5	13.1	5.8	3.9	2.5	2.1	46.1	38.8	27.0	21.3	13.8	6.0	4.0	2.6	2.2	
A512/30G6	NGA5120030HSOBA	60.7	49.3	36.5	28.0	18.0	7.6	4.9	3.2	2.6	75.5	54.8	39.9	30.0	19.1	7.9	5.1	3.3	2.7	
A512/40A	NGA5120040HSOCA	75.0	63.0	42.0	34.0	22.0	8.8	6.4	4.3	3.5	86.0	69.0	47.0	36.0	23.0	9.2	6.7	4.4	3.6	
A512/40G6	NGA5120040HSOBA	75.0	63.0	42.0	34.0	22.0	8.8	6.4	4.3	3.5	86.0	69.0	47.0	36.0	23.0	9.2	6.7	4.4	3.6	
A512/55A	NGA5120055HSOCA	99.2	83.1	59.1	46.4	32.7	13.6	9.0	6.0	4.9	114.9	89.8	65.3	50.2	34.2	14.0	9.2	6.1	5.0	
A512/60A	NGA5120060HSOCA	122.8	100.8	69.2	54.2	33.8	15.3	9.9	6.6	5.4	145.8	108.9	75.9	58.1	35.5	15.8	10.3	6.8	5.6	
A512/60G6	NGA5120060HSOBA	122.8	100.8	69.2	54.2	33.8	15.3	9.9	6.6	5.4	145.8	108.9	75.9	58.1	35.5	15.8	10.3	6.8	5.6	
A512/65A	NGA5120065HSOCA	95.8	83.1	65.8	56.4	35.8	16.6	11.0	7.4	6.1	120.8	100.3	75.4	60.4	38.6	17.4	11.5	7.5	6.2	
A512/65G6	NGA5120065HSOBA	95.8	83.1	65.8	56.4	35.8	16.6	11.0	7.4	6.1	120.8	100.3	75.4	60.4	38.6	17.4	11.5	7.5	6.2	
A512/85A	NGA5120085HSOCA	168.0	141.0	100.0	78.0	53.0	22.0	14.2	9.4	7.7	193.0	154.0	112.0	85.0	56.0	23.0	14.7	9.8	8.0	
A512/115A	NGA5120115HSOCA	210.0	179.0	128.0	100.0	60.0	26.0	18.0	12.0	10.1	244.0	192.0	140.0	107.0	64.0	27.0	18.0	13.0	10.4	
A512/120A	NGA5120120HSOCA	257.0	201.0	135.0	104.0	65.5	27.8	18.1	11.9	9.8	293.0	221.0	147.0	112.0	69.5	28.9	18.6	12.3	10.2	
A512/140A	NGA5120140HSOCA	275.0	220.0	151.0	118.0	75.1	32.5	21.3	14.0	11.5	315.0	244.0	166.0	128.0	79.7	33.8	22.0	14.5	11.9	
A512/200A	NGA5120200HSOCA	329.0	274.0	196.0	160.0	104.0	46.6	31.0	20.4	16.7	381.0	313.0	222.0	176.0	110.0	48.5	32.0	21.1	17.3	

1.75 V/C – Discharge in A at 20°C											1.70 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h	
A502/10S	NGA5020010HSOSA	35.00	26.00	17.00	12.30	6.90	3.00	1.90	1.25	1.02	37.00	27.00	17.00	12.60	7.00	3.00	1.90	1.25	1.02	
A504/3.5S	NGA50403D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A506/1.2S	NGA50601D2HSOSA	4.12	2.82	1.74	1.30	0.78	0.35	0.22	0.13	0.10	4.32	2.91	1.77	1.31	0.79	0.35	0.22	0.13	0.10	
A506/3.5S	NGA50603D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A506/4.2S	NGA50604D2HSOSA	13.30	6.90	54.40	3.50	2.40	1.25	0.78	0.50	0.41	14.20	7.00	4.50	3.50	2.50	1.26	0.79	0.50	0.41	
A506/6.5S	NGA50606D5HSOSA	20.00	14.00	9.20	6.80	3.90	1.60	1.10	0.76	0.63	21.00	15.00	9.50	6.90	3.90	1.60	1.10	0.76	0.63	
A506/10S	NGA5060010HSOSA	35.00	26.00	17.00	12.30	6.90	3.00	1.90	1.25	1.02	37.00	27.00	17.00	12.60	7.00	3.00	1.90	1.25	1.02	
A508/3.5S	NGA50803D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A512/1.2S	NGA51201D2HSOSA	4.12	2.82	1.74	1.30	0.78	0.35	0.22	0.13	0.10	4.32	2.91	1.77	1.31	0.79	0.35	0.22	0.13	0.10	
A512/2S	NGA5120002HSOSA	6.80	4.60	2.90	2.20	1.50	0.59	0.36	0.24	0.19	7.40	4.80	3.00	2.20	1.50	0.60	0.37	0.24	0.19	
A512/3.5S	NGA51203D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A512/6.5S	NGA51206D5HSOSA	20.00	14.00	9.20	6.80	3.90	1.60	1.10	0.76	0.63	21.00	15.00	9.50	6.90	3.90	1.60	1.10	0.76	0.63	
A512/10S	NGA5120010HSOSA	35.00	26.00	17.00	12.30	6.90	3.00	1.90	1.25	1.02	37.00	27.00	17.00	12.60	7.00	3.00	1.90	1.25	1.02	
A512/16G5	NGA5120016HSOBA	51.0	36.0	23.0	17.0	10.4	4.5	2.9	1.8	1.5	54.0	39.0	24.0	17.0	10.5	4.6	2.9	1.8	1.5	
A512/25G5	NGA5120025HSOBA	54.2	41.4	28.6	21.9	14.2	6.1	4.0	2.7	2.2	61.7	43.3	29.6	22.4	14.4	6.2	4.1	2.7	2.2	
A512/30G6	NGA5120030HSOBA	84.7	60.3	42.0	31.3	19.7	8.1	5.2	3.4	2.8	92.0	64.3	43.3	32.0	20.0	8.2	5.3	3.4	2.8	
A512/40A	NGA5120040HSOCA	103.0	74.0	50.0	37.0	24.0	9.4	6.8	4.5	3.7	115.0	79.0	52.0	38.0	24.0	9.5	6.8	4.5	3.7	
A512/40G6	NGA5120040HSOBA	103.0	74.0	50.0	37.0	24.0	9.4	6.8	4.5	3.7	115.0	79.0	52.0	38.0	24.0	9.5	6.8	4.5	3.7	
A512/55A	NGA5120055HSOCA	139.7	99.0	69.5	52.5	35.0	14.2	9.3	6.2	5.1	151.6	106.7	72.0	53.9	35.5	14.3	9.3	6.2	5.1	
A512/60A	NGA5120060HSOCA	168.0	118.1	80.4	60.5	36.4	16.1	10.4	6.9	5.6	178.3	125.2	82.6	61.6	36.9	16.2	10.4	6.9	5.6	
A512/60G6	NGA5120060HSOBA	168.0	118.1	80.4	60.5	36.4	16.1	10.4	6.9	5.6	178.3	125.2	82.6	61.6	36.9	16.2	10.4	6.9	5.6	
A512/65A	NGA5120065HSOCA	140.6	111.3	81.9	63.8	40.0	17.8	11.7	7.6	6.3	158.3	121.3	86.2	65.9	40.6	17.9	11.7	7.6	6.3	
A512/65G6	NGA5120065HSOBA	140.6	111.3	81.9	63.8	40.0	17.8	11.7	7.6	6.3	158.3	121.3	86.2	65.9	40.6	17.9	11.7	7.6	6.3	
A512/85A	NGA5120085HSOCA	226.0	169.0	120.0	90.0	58.0	23.0	15.0	9.9	8.1	244.0	182.0	125.0	93.0	59.0	23.0	15.1	9.9	8.1	
A512/115A	NGA5120115HSOCA	282.0	204.0	148.0	112.0	66.0	28.0	19.0	13.0	10.5	310.0	215.0	153.0	114.0	67.0	28.0	19.0	13.0	10.5	
A512/120A	NGA5120120HSOCA	330.0	235.0	155.0	116.0	71.6	29.5	19.0	12.6	10.5	367.0	249.0	161.0	119.0	73.1	29.9	19.2	12.8	10.5	
A512/140A	NGA5120140HSOCA	357.0	264.0	176.0	133.0	82.3	34.5	22.3	14.8	12.2	397.0	282.0	183.0	137.0	84.1	35.1	22.6	15.0	12.2	
A512/200A	NGA5120200HSOCA	437.0	349.0	237.0	183.0	115.0	49.7	32.3	21.5	17.7	486.0	380.0	251.0	191.0	117.0	50.6	32.8	21.8	17.7	

The values are measured at 20°C and may change depending on the application or ambient temperature.

		1.65 V/C – Discharge in A at 20°C										1.60 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h		
A502/10S	NGA5020010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A504/3.5S	NGA50403D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A506/1.2S	NGA50601D2HS0SA	4.52	2.96	1.79	1.32	0.80	0.36	0.22	0.13	0.10	4.66	3.00	1.80	1.33	0.80	0.36	0.22	0.13	0.10		
A506/3.5S	NGA50603D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A506/4.2S	NGA50604D2HS0SA	14.80	7.00	4.50	3.50	2.50	1.27	0.79	0.50	0.41	15.20	7.00	4.50	3.50	2.50	1.27	0.79	0.50	0.41		
A506/6.5S	NGA50606D5HS0SA	23.00	15.00	9.60	7.00	4.00	1.60	1.10	0.76	0.63	24.00	16.00	9.70	7.00	4.00	1.60	1.10	0.76	0.63		
A506/10S	NGA5060010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A508/3.5S	NGA50803D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A512/1.2S	NGA51201D2HS0SA	4.52	2.96	1.79	1.32	0.80	0.36	0.22	0.13	0.10	4.66	3.00	1.80	1.33	0.80	0.36	0.22	0.13	0.10		
A512/2S	NGA5120002HS0SA	7.80	4.90	3.00	2.20	1.50	0.60	0.37	0.24	0.19	8.20	5.00	3.10	2.20	1.50	0.60	0.37	0.24	0.19		
A512/3.5S	NGA51203D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A512/6.5S	NGA51206D5HS0SA	23.00	15.00	9.60	7.00	4.00	1.60	1.10	0.76	0.63	24.00	16.00	9.70	7.00	4.00	1.60	1.10	0.76	0.63		
A512/10S	NGA5120010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A512/16G5	NGA5120016HS0BA	58.0	41.0	24.0	18.0	10.6	4.6	2.9	1.8	1.5	61.0	42.0	25.0	18.0	10.7	4.6	2.9	1.8	1.5		
A512/25G5	NGA5120025HS0BA	67.5	45.4	30.2	22.7	14.4	6.2	4.1	2.7	2.2	71.8	46.9	30.7	22.9	14.5	6.2	4.1	2.7	2.2		
A512/30G6	NGA5120030HS0BA	98.9	67.0	44.0	32.4	20.1	8.2	5.3	3.4	2.8	105.1	68.7	44.4	32.6	20.1	8.2	5.3	3.4	2.8		
A512/40A	NGA5120040HS0CA	121.0	82.0	53.0	39.0	24.0	9.5	6.8	4.5	3.7	127.0	85.0	54.0	39.0	24.0	9.5	6.8	4.5	3.7		
A512/40G6	NGA5120040HS0BA	121.0	82.0	53.0	39.0	24.0	9.5	6.8	4.5	3.7	127.0	85.0	54.0	39.0	24.0	9.5	6.8	4.5	3.7		
A512/55A	NGA5120055HS0CA	161.2	112.3	73.6	54.7	35.7	14.4	9.3	6.2	5.1	169.8	116.2	74.6	55.2	35.8	14.4	9.3	6.2	5.1		
A512/60A	NGA5120060HS0CA	185.2	130.3	83.2	61.7	37.1	16.2	10.4	6.9	5.6	191.0	133.3	83.5	61.8	37.2	16.2	10.4	6.9	5.6		
A512/60G6	NGA5120060HS0BA	185.2	130.3	83.2	61.7	37.1	16.2	10.4	6.9	5.6	191.0	133.3	83.5	61.8	37.2	16.2	10.4	6.9	5.6		
A512/65A	NGA5120065HS0CA	178.5	129.8	88.8	67.0	40.9	17.9	11.7	7.6	6.3	193.1	135.7	90.3	67.7	41.1	18.0	11.7	7.6	6.3		
A512/65G6	NGA5120065HS0BA	178.5	129.8	88.8	67.0	40.9	17.9	11.7	7.6	6.3	193.1	135.7	90.3	67.7	41.1	18.0	11.7	7.6	6.3		
A512/85A	NGA5120085HS0CA	259.0	192.0	128.0	94.0	59.0	24.0	15.1	9.9	8.1	273.0	199.0	130.0	95.0	60.0	23.0	15.1	9.9	8.1		
A512/115A	NGA5120115HS0CA	332.0	222.0	156.0	116.0	67.0	28.0	19.0	13.0	10.5	343.0	227.0	158.0	117.0	68.0	28.0	19.0	13.0	10.5		
A512/120A	NGA5120120HS0CA	387.0	260.0	165.0	122.0	74.0	30.1	18.0	11.3	9.0	409.0	267.0	168.0	124.0	74.7	30.2	18.1	11.3	9.0		
A512/140A	NGA5120140HS0CA	423.0	294.0	189.0	141.0	85.4	35.4	21.2	13.3	10.6	452.0	303.0	193.0	143.0	86.3	35.4	21.2	13.3	10.6		
A512/200A	NGA5120200HS0CA	531.0	395.0	262.0	198.0	120.0	51.0	30.6	19.1	15.3	581.0	411.0	269.0	202.0	121.0	51.1	30.6	19.1	15.3		

The values are measured at 20°C and may change depending on the application or ambient temperature.

1.85 V/C – Discharge in W/bloc at 20°C											1.80 V/C – Discharge in W/bloc at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'	
A502/10S	NGA5020010HSOSA	56.0	50.0	41.0	33.0	27.0	20.0	16.0	13.0	9.0	56.0	53.0	44.0	35.0	29.0	21.0	17.0	14.0	10.0	
A504/3.5S	NGA50403D5HSOSA	41.0	34.0	26.0	21.0	17.0	13.0	11.0	9.0	6.0	45.0	38.0	28.0	22.0	19.0	14.0	11.0	9.0	6.0	
A506/1.2S	NGA50601D2HSOSA	21.4	17.2	12.2	10.3	8.6	6.6	4.9	4.0	3.0	23.5	19.1	13.3	10.9	9.1	6.9	5.1	4.1	3.0	
A506/3.5S	NGA50603D5HSOSA	62.0	51.0	38.0	32.0	26.0	20.0	16.0	13.0	9.0	68.0	57.0	42.0	33.0	28.0	21.0	17.0	13.0	10.0	
A506/4.2S	NGA50604D2HSOSA	77.0	63.0	44.0	35.0	30.0	23.0	16.0	14.0	11.0	83.0	71.0	49.0	39.0	35.0	31.0	17.0	14.0	11.0	
A506/6.5S	NGA50606D5HSOSA	120.0	100.0	73.0	60.0	51.0	38.0	28.0	23.0	16.0	128.0	112.0	80.0	63.0	54.0	40.0	30.0	24.0	17.0	
A506/10S	NGA5060010HSOSA	167.0	149.0	124.0	98.0	80.0	60.0	49.0	39.0	28.0	168.0	159.0	131.0	104.0	86.0	64.0	51.0	41.0	29.0	
A508/3.5S	NGA50803D5HSOSA	83.0	68.0	51.0	42.0	35.0	27.0	22.0	17.0	12.0	91.0	76.0	56.0	44.0	37.0	28.0	23.0	18.0	13.0	
A512/1.2S	NGA51201D2HSOSA	42.7	34.4	24.3	20.7	17.2	13.2	9.8	8.0	5.9	47.0	38.3	26.5	21.7	18.1	13.7	10.2	8.2	6.0	
A512/2S	NGA5120002HSOSA	74.0	60.0	44.0	36.0	30.0	23.0	17.0	14.0	10.0	83.0	68.0	49.0	38.0	32.0	24.0	18.0	15.0	11.0	
A512/3.5S	NGA51203D5HSOSA	124.0	102.0	77.0	63.0	52.0	40.0	33.0	26.0	18.0	136.0	114.0	84.0	66.0	56.0	42.0	34.0	27.0	19.0	
A512/6.5S	NGA51206D5HSOSA	240.0	200.0	146.0	120.0	102.0	76.0	56.0	46.0	32.0	256.0	224.0	160.0	126.0	108.0	80.0	60.0	48.0	34.0	
A512/10S	NGA5120010HSOSA	335.0	298.0	248.0	195.0	160.0	120.0	98.0	78.0	56.0	336.0	318.0	261.0	209.0	172.0	128.0	101.0	81.0	59.0	
A512/16G5	NGA5120016HSOBA	485.0	433.0	352.0	295.0	252.0	192.0	150.0	119.0	87.0	584.0	485.0	384.0	309.0	269.0	203.0	156.0	124.0	90.0	
A512/25G5	NGA5120025HSOBA	535.0	463.0	387.0	324.0	278.0	225.0	170.0	140.0	105.0	623.0	555.0	418.0	360.0	303.0	240.0	180.0	146.0	109.0	
A512/30G6	NGA5120030HSOBA	857.0	751.0	568.0	479.0	400.0	310.0	251.0	200.0	144.0	1036.0	850.0	637.0	517.0	433.0	330.0	264.0	210.0	151.0	
A512/40A	NGA5120040HSOCA	958.0	848.0	703.0	578.0	490.0	395.0	300.0	243.0	178.0	1092.0	1007.0	758.0	646.0	538.0	415.0	318.0	255.0	186.0	
A512/40G6	NGA5120040HSOBA	958.0	848.0	703.0	578.0	490.0	395.0	300.0	243.0	178.0	1092.0	1007.0	758.0	646.0	538.0	415.0	318.0	255.0	186.0	
A512/55A	NGA5120055HSOCA	1348.0	1172.0	922.0	844.0	718.0	572.0	457.0	367.0	269.0	1555.0	1362.0	1014.0	888.0	777.0	606.0	478.0	382.0	278.0	
A512/60A	NGA5120060HSOCA	1618.0	1414.0	1096.0	963.0	807.0	625.0	459.0	369.0	271.0	1955.0	1634.0	1181.0	1041.0	873.0	669.0	489.0	390.0	283.0	
A512/60G6	NGA5120060HSOBA	1618.0	1414.0	1096.0	963.0	807.0	625.0	459.0	369.0	271.0	1955.0	1634.0	1181.0	1041.0	873.0	669.0	489.0	390.0	283.0	
A512/65A	NGA5120065HSOCA	1180.0	1113.0	991.0	861.0	763.0	659.0	500.0	411.0	307.0	1459.0	1316.0	1109.0	989.0	851.0	693.0	544.0	441.0	327.0	
A512/65G6	NGA5120065HSOBA	1180.0	1113.0	991.0	861.0	763.0	659.0	500.0	411.0	307.0	1459.0	1316.0	1109.0	989.0	851.0	693.0	544.0	441.0	327.0	
A512/85A	NGA5120085HSOCA	1979.0	1802.0	1527.0	1310.0	1118.0	905.0	690.0	565.0	425.0	2279.0	2132.0	1684.0	1487.0	1245.0	970.0	740.0	600.0	447.0	
A512/115A	NGA5120115HSOCA	2808.0	2531.0	2009.0	1705.0	1439.0	1155.0	872.0	702.0	512.0	3189.0	2873.0	2190.0	1888.0	1569.0	1209.0	926.0	739.0	535.0	
A512/120A	NGA5120120HSOCA	3350.0	2862.0	2300.0	1895.0	1583.0	1200.0	938.0	757.0	583.0	3763.0	3276.0	2543.0	2027.0	1720.0	1285.0	966.0	794.0	608.0	
A512/140A	NGA5120140HSOCA	3674.0	3172.0	2549.0	2101.0	1755.0	1330.0	1040.0	839.0	647.0	4127.0	3631.0	2819.0	2246.0	1906.0	1424.0	1070.0	880.0	674.0	
A512/200A	NGA5120200HSOCA	4690.0	4102.0	3449.0	2843.0	2375.0	1800.0	1408.0	1135.0	875.0	5268.0	4695.0	3815.0	3040.0	2580.0	1928.0	1449.0	1191.0	912.0	

1.75 V/C – Discharge in W/bloc at 20°C											1.70 V/C – Discharge in W/bloc at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'	
A502/10S	NGA5020010HSOSA	60.0	58.0	45.0	36.0	30.0	22.0	17.0	14.0	10.0	64.0	60.0	46.0	38.0	31.0	22.0	17.0	14.0	10.0	
A504/3.5S	NGA50403D5HSOSA	49.0	41.0	30.0	23.0	20.0	15.0	12.0	9.0	6.0	53.0	44.0	31.0	24.0	20.0	15.0	12.0	9.0	7.0	
A506/1.2S	NGA50601D2HSOSA	25.1	20.7	14.0	11.1	9.3	7.0	5.2	4.2	3.0	26.8	21.9	14.4	11.2	9.4	7.1	5.2	4.2	3.1	
A506/3.5S	NGA50603D5HSOSA	73.0	62.0	45.0	35.0	29.0	22.0	18.0	14.0	10.0	80.0	66.0	46.0	36.0	30.0	22.0	18.0	14.0	10.0	
A506/4.2S	NGA50604D2HSOSA	89.0	77.0	52.0	40.0	36.0	31.0	17.0	15.0	11.0	97.0	81.0	54.0	41.0	36.0	32.0	17.0	15.0	11.0	
A506/6.5S	NGA50606D5HSOSA	138.0	121.0	86.0	66.0	57.0	42.0	30.0	24.0	17.0	150.0	126.0	88.0	68.0	58.0	42.0	31.0	24.0	17.0	
A506/10S	NGA5060010HSOSA	181.0	173.0	135.0	109.0	90.0	66.0	51.0	42.0	30.0	193.0	180.0	139.0	113.0	92.0	67.0	52.0	42.0	30.0	
A508/3.5S	NGA50803D5HSOSA	97.0	82.0	60.0	46.0	39.0	29.0	23.0	18.0	13.0	106.0	88.0	61.0	48.0	40.0	30.0	24.0	19.0	13.0	
A512/1.2S	NGA51201D2HSOSA	50.1	41.4	28.0	22.2	18.6	14.0	10.3	8.3	6.1	53.7	43.7	28.8	22.4	18.8	14.1	10.4	8.4	6.1	
A512/2S	NGA5120002HSOSA	91.0	75.0	52.0	40.0	33.0	25.0	18.0	15.0	11.0	99.0	80.0	53.0	41.0	34.0	25.0	19.0	15.0	11.0	
A512/3.5S	NGA51203D5HSOSA	146.0	123.0	89.0	69.0	59.0	44.0	35.0	27.0	19.0	159.0	131.0	92.0	72.0	60.0	45.0	35.0	28.0	20.0	
A512/6.5S	NGA51206D5HSOSA	276.0	242.0	172.0	132.0	114.0	84.0	60.0	48.0	34.0	300.0	252.0	176.0	136.0	116.0	84.0	62.0	48.0	34.0	
A512/10S	NGA5120010HSOSA	361.0	346.0	270.0	219.0	179.0	132.0	103.0	83.0	60.0	385.0	360.0	278.0	226.0	185.0	135.0	103.0	84.0	60.0	
A512/16G5	NGA5120016HSOBA	636.0	534.0	407.0	322.0	280.0	209.0	159.0	126.0	91.0	688.0	573.0	418.0	331.0	285.0	212.0	161.0	127.0	91.0	
A512/25G5	NGA5120025HSOBA	689.0	616.0	454.0	385.0	320.0	248.0	185.0	150.0	111.0	776.0	652.0	482.0	395.0	330.0	253.0	187.0	151.0	112.0	
A512/30G6	NGA5120030HSOBA	1118.0	951.0	690.0	538.0	453.0	341.0	271.0	214.0	153.0	1214.0	1037.0	726.0	558.0	465.0	347.0	274.0	216.0	155.0	
A512/40A	NGA5120040HSOCA	1226.0	1074.0	822.0	691.0	569.0	432.0	326.0	261.0	189.0	1391.0	1157.0	870.0	719.0	587.0	441.0	331.0	264.0	191.0	
A512/40G6	NGA5120040HSOBA	1226.0	1074.0	822.0	691.0	569.0	432.0	326.0	261.0	189.0	1391.0	1157.0	870.0	719.0	587.0	441.0	331.0	264.0	191.0	
A512/55A	NGA5120055HSOCA	1799.0	1496.0	1102.0	917.0	813.0	626.0	489.0	388.0	281.0	1912.0	1624.0	1163.0	935.0	834.0	636.0	493.0	392.0	283.0	
A512/60A	NGA5120060HSOCA	2267.0	1837.0	1274.0	1071.0	915.0	693.0	505.0	400.0	288.0	2406.0	2022.0	1348.0	1088.0	940.0	707.0	514.0	405.0	290.0	
A512/60G6	NGA5120060HSOBA	2267.0	1837.0	1274.0	1071.0	915.0	693.0	505.0	400.0	288.0	2406.0	2022.0	1348.0	1088.0	940.0	707.0	514.0	405.0	290.0	
A512/65A	NGA5120065HSOCA	1757.0	1591.0	1223.0	1083.0	914.0	721.0	567.0	457.0	336.0	1959.0	1739.0	1322.0	1142.0	954.0	739.0	577.0	464.0	340.0	
A512/65G6	NGA5120065HSOBA	1757.0	1591.0	1223.0	1083.0	914.0	721.0	567.0	457.0	336.0	1959.0	1739.0	1322.0	1142.0	954.0	739.0	577.0	464.0	340.0	
A512/85A	NGA5120085HSOCA	2561.0	2292.0	1847.0	1557.0	1329.0	1018.0	768.0	621.0	460.0	2900.0	2486.0	1993.0	1607.0	1381.0	1045.0	786.0	634.0	469.0	
A512/115A	NGA5120115HSOCA	3642.0	3101.0	2374.0	1986.0	1653.0	1255.0	956.0	759.0	547.0	4106.0	3361.0	2511.0	2030.0	1703.0	1281.0	971.0	770.0	553.0	
A512/120A	NGA5120120HSOCA	4237.0	3552.0	2627.0	2134.0	1800.0	1334.0	989.0	815.0	622.0	4536.0	3800.0	2690.0	2201.0	1849.0	1365.0	1008.0	830.0	632.0	
A512/140A	NGA5120140HSOCA	4647.0	3937.0	2912.0	2365.0	1995.0	1479.0	1096.0	904.0	689.0	4974.0	4211.0	2981.0	2440.0	2050.0	1513.0	1117.0	920.0	700.0	
A512/200A	NGA5120200HSOCA	5932.0	5092.0	3941.0	3201.0	2700.0	2002.0	1484.0	1223.0	933.0	6350.0	5446.0	4034.0	3302.0	2774.0	2048.0	1512.0	124		

		1.65 V/C – Discharge in W/bloc at 20°C										1.60 V/C – Discharge in W/bloc at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'		
A502/10S	NGA5020010HSOSA	68.0	62.0	47.0	38.0	31.0	23.0	17.0	14.0	10.0	73.0	63.0	48.0	38.0	31.0	23.0	17.0	14.0	10.0		
A504/3.5S	NGA50403D5HSOSA	57.0	46.0	31.0	24.0	20.0	15.0	12.0	9.0	7.0	59.0	46.0	32.0	25.0	20.0	15.0	12.0	9.0	7.0		
A506/1.2S	NGA50601D2HSOSA	28.2	22.6	14.7	11.2	9.5	7.1	5.2	4.2	3.1	29.2	23.1	14.8	11.3	9.5	7.1	5.2	4.2	3.1		
A506/3.5S	NGA50603D5HSOSA	85.0	68.0	47.0	36.0	30.0	23.0	18.0	14.0	10.0	89.0	69.0	47.0	37.0	31.0	23.0	18.0	14.0	10.0		
A506/4.2S	NGA50604D2HSOSA	102.0	82.0	55.0	41.0	36.0	32.0	17.0	15.0	11.0	106.0	83.0	55.0	42.0	37.0	32.0	17.0	15.0	11.0		
A506/6.5S	NGA50606D5HSOSA	160.0	129.0	90.0	69.0	59.0	43.0	31.0	25.0	18.0	168.0	132.0	92.0	70.0	59.0	43.0	31.0	25.0	18.0		
A506/10S	NGA5060010HSOSA	205.0	186.0	142.0	114.0	93.0	68.0	52.0	42.0	30.0	218.0	190.0	144.0	115.0	94.0	68.0	52.0	42.0	30.0		
A508/3.5S	NGA50803D5HSOSA	113.0	91.0	62.0	49.0	41.0	30.0	24.0	19.0	13.0	119.0	93.0	63.0	49.0	41.0	30.0	24.0	19.0	13.0		
A512/1.2S	NGA51201D2HSOSA	56.4	45.3	29.4	22.5	18.9	14.2	10.5	8.4	6.1	58.4	46.2	29.7	22.5	19.0	14.2	10.5	8.4	6.2		
A512/2S	NGA5120002HSOSA	103.0	82.0	54.0	41.0	34.0	25.0	19.0	15.0	11.0	106.0	84.0	55.0	42.0	34.0	25.0	19.0	15.0	11.0		
A512/3.5S	NGA51203D5HSOSA	170.0	137.0	93.0	73.0	61.0	45.0	35.0	28.0	20.0	178.0	139.0	95.0	74.0	61.0	45.0	36.0	28.0	20.0		
A512/6.5S	NGA51206D5HSOSA	320.0	258.0	180.0	138.0	118.0	86.0	62.0	50.0	36.0	336.0	264.0	184.0	140.0	118.0	86.0	62.0	50.0	36.0		
A512/10S	NGA5120010HSOSA	410.0	371.0	283.0	229.0	187.0	136.0	104.0	84.0	61.0	437.0	381.0	287.0	231.0	188.0	136.0	104.0	85.0	61.0		
A512/16G5	NGA5120016HSOBA	741.0	601.0	423.0	335.0	288.0	213.0	161.0	128.0	92.0	783.0	621.0	426.0	338.0	289.0	214.0	162.0	128.0	92.0		
A512/25G5	NGA5120025HSOBA	854.0	693.0	501.0	400.0	335.0	255.0	188.0	152.0	112.0	908.0	725.0	514.0	403.0	339.0	256.0	189.0	153.0	113.0		
A512/30G6	NGA5120030HSOBA	1310.0	1095.0	746.0	569.0	471.0	351.0	276.0	217.0	155.0	1393.0	1121.0	755.0	576.0	474.0	352.0	276.0	218.0	156.0		
A512/40A	NGA5120040HSOCA	1514.0	1235.0	902.0	729.0	597.0	446.0	333.0	265.0	192.0	1577.0	1299.0	923.0	735.0	603.0	449.0	334.0	266.0	192.0		
A512/40G6	NGA5120040HSOBA	1514.0	1235.0	902.0	729.0	597.0	446.0	333.0	265.0	192.0	1577.0	1299.0	923.0	735.0	603.0	449.0	334.0	266.0	192.0		
A512/55A	NGA5120055HSOCA	2005.0	1726.0	1204.0	945.0	845.0	642.0	496.0	394.0	284.0	2107.0	1800.0	1231.0	957.0	851.0	645.0	498.0	395.0	285.0		
A512/60A	NGA5120060HSOCA	2548.0	2176.0	1404.0	1098.0	954.0	715.0	519.0	409.0	292.0	2680.0	2279.0	1439.0	1104.0	963.0	719.0	522.0	410.0	293.0		
A512/60G6	NGA5120060HSOBA	2548.0	2176.0	1404.0	1098.0	954.0	715.0	519.0	409.0	292.0	2680.0	2279.0	1439.0	1104.0	963.0	719.0	522.0	410.0	293.0		
A512/65A	NGA5120065HSOCA	2139.0	1853.0	1395.0	1171.0	976.0	749.0	582.0	466.0	341.0	2315.0	1976.0	1443.0	1183.0	987.0	754.0	584.0	468.0	342.0		
A512/65G6	NGA5120065HSOBA	2139.0	1853.0	1395.0	1171.0	976.0	749.0	582.0	466.0	341.0	2315.0	1976.0	1443.0	1183.0	987.0	754.0	584.0	468.0	342.0		
A512/85A	NGA5120085HSOCA	3115.0	2719.0	2109.0	1663.0	1410.0	1060.0	797.0	642.0	474.0	3264.0	2923.0	2190.0	1700.0	1427.0	1069.0	804.0	648.0	477.0		
A512/115A	NGA5120115HSOCA	4304.0	3582.0	2603.0	2057.0	1732.0	1296.0	980.0	776.0	557.0	4467.0	3755.0	2665.0	2073.0	1750.0	1306.0	985.0	780.0	560.0		
A512/120A	NGA5120120HSOCA	4847.0	4002.0	2761.0	2246.0	1883.0	1387.0	1022.0	843.0	640.0	5135.0	4156.0	2812.0	2276.0	1906.0	1403.0	1032.0	852.0	646.0		
A512/140A	NGA5120140HSOCA	5316.0	4435.0	3060.0	2489.0	2087.0	1538.0	1133.0	934.0	709.0	5631.0	4606.0	3117.0	2522.0	2113.0	1555.0	1144.0	945.0	716.0		
A512/200A	NGA5120200HSOCA	6786.0	5736.0	4142.0	3369.0	2825.0	2081.0	1533.0	1264.0	959.0	7189.0	5957.0	4218.0	3413.0	2860.0	2104.0	1548.0	1279.0	969.0		

The values are measured at 20°C and may change depending on the application or ambient temperature.

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