NorthStar

HELIOS POWER SOLUTIONS

NSB 12-425

Pure Lead - High Rate

99.9% PURE LEAD

15 YRS FLOAT LIFE

PROUDLY MADE IN THE USA

The NSB UPS Battery® delivers superior performance at high discharge rates down to <15 mins.

- Performance excels at high rates of discharge and recharge
- Pure lead electrochemistry greatly increases temp and corrosion resistance while reducing component aging
- Thin plates deliver large surface area high power density and low resistance
- Design life 15+ years at 20°C (68°F)
- EUROBAT design life definition: Long Life (12+ years)
- High energy density
- Operating temperature range -40°C to +65°C (-40°F to 149°F)
- State-of-the-art automated manufacturing ensures consistency and reliability
- Advanced 3 stage terminal design to ensure leak-free operation - brass terminals provide maximum performance
- High modulus Polyphenylene Oxide (PPO) plastic materials designed to withstand extended elevated operating temperatures and maintain high battery compression essential for reliable operation
- Non-halogenated thermally sealed plastic casing
- Approved as non-hazardous cargo for ground sea and air transport DOT 49CFR173.159(d), (i) and (ii)

NSB 12 -425

Nominal Technical Specifications

Electrical

Terminal	Female M6 x 1.0	Terminal torque	8.0 Nm (71 in -lbs)
4C (15min) power to 1.67 VPC	423 Watts/Cell	Float voltage	2.28 VPC
Shelf life	up to 24 months	Conductance	1875 S
Impedance (1Khz)	2.4 m Ω @ 25°C (77°F)	Short circuit current	3900 A
Operation temperature range	-40°C to +65°C	Nominal voltage	12 V
Silver equilvalent	NSB 12 -400	Capacity	W/cell (15 min)

Dimensions

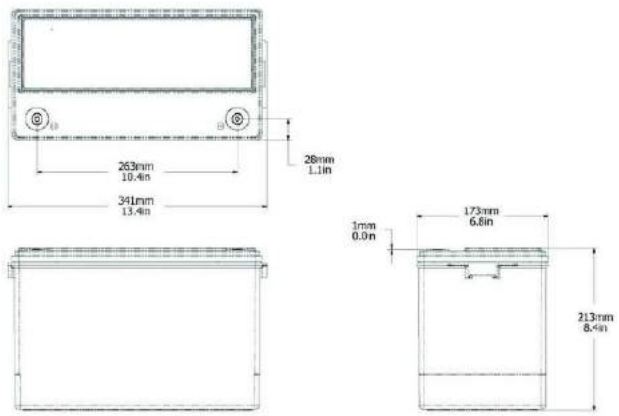
Height	213 mm	Width	173 mm
Length	341 mm	Weight	34 kg

Constant Power Discharge Ratings (WPC @ 25°C/77°F)

Duration (minutes) (watts/cell @ 25°C/77°F)

End of discharge (Volts)	2 min	5 min	10 min	15 min	20 min	30 min	45 min	60 min	120 min
1.75	807	667	499	401	337	256	190	152	85
1.70	873	709	523	417	348	263	194	154	86
1.67	911	732	536	425	354	266	196	155	86
1.65	934	745	543	430	357	268	197	156	86
1.60	986	774	558	439	363	272	199	157	87

Technical Drawing



All NorthStar batteries are compliant with: Telcordia SR4228, IEC 60896; Bellcore GR -63-Core, Issue 1; British, German, and Russian telecom standards; UL approved and UN2800 certified. NorthStar is registered to ISO 9001 and ISO 14001.

NSB12 -425 UPS Battery®

Discharge tables @ 20°C (68°F)

Current / A

Duration		End of Discharge Voltage								
Minutes	Hours	1.85	1.80	1.75	1.70	1.67	1.65	1.60	1.55	1.50
2	0.03	380.1	436.7	493.0	546.9	577.2	596.1	638.4	671.8	694.6
5	0.08	299.2	330.4	360.0	387.1	401.8	410.8	430.2	444.5	453.3
10	0.17	221.7	238.4	253.8	267.5	274.7	279.0	288.2	294.6	298.1
15	0.25	178.5	189.3	199.1	207.6	212.1	214.7	220.2	224.0	225.9
20	0.33	150.5	158.1	165.0	170.9	174.0	175.8	179.5	182.0	183.2
30	0.50	115.7	120.2	124.2	127.6	129.3	130.3	132.3	133.6	134.2
45	0.75	86.9	89.4	91.6	93.4	94.3	94.8	95.9	96.5	96.7
60	1	70.1	71.6	73.0	74.1	74.6	74.9	75.6	75.9	76.1
120	2	40.2	40.6	40.9	41.2	41.3	41.4	41.6	41.7	41.7
180	3	28.4	28.6	28.7	28.8	28.9	28.9	29.0	29.0	29.0
240	4	22.0	22.1	22.2	22.3	22.3	22.3	22.3	22.4	22.4
300	5	18.0	18.1	18.2	18.2	18.2	18.2	18.2	18.3	18.3
480	8	11.7	11.8	11.8	11.8	11.9	11.9	11.9	11.9	11.9
600	10	9.5	9.6	9.6	9.7	9.7	9.7	9.7	9.7	9.7
1200	20	5.0	5.0	5.1	5.1	5.2	5.2	5.2	5.2	5.2

Capacity / Ah

Duration		End of Discharge Voltage								
Minutes	Hours	1.85	1.80	1.75	1.70	1.67	1.65	1.60	1.55	1.50
2	0.03	12.7	14.6	16.4	18.2	19.2	19.9	21.3	22.4	23.2
5	0.08	24.9	27.5	30.0	32.3	33.5	34.2	35.8	37.0	37.8
10	0.17	37.0	39.7	42.3	44.6	45.8	46.5	48.0	49.1	49.7
15	0.25	44.6	47.3	49.8	51.9	53.0	53.7	55.1	56.0	56.5
20	0.33	50.2	52.7	55.0	57.0	58.0	58.6	59.8	60.7	61.1
30	0.50	57.9	60.1	62.1	63.8	64.6	65.1	66.2	66.8	67.1
45	0.75	65.2	67.1	68.7	70.0	70.7	71.1	71.9	72.4	72.6
60	1	70.1	71.6	73.0	74.1	74.6	74.9	75.6	75.9	76.1
120	2	80.3	81.1	81.8	82.4	82.7	82.8	83.2	83.3	83.3
180	3	85.2	85.7	86.1	86.5	86.6	86.7	86.9	87.0	87.0
240	4	88.2	88.5	88.8	89.1	89.2	89.2	89.4	89.4	89.5
300	5	90.2	90.5	90.8	91.0	91.0	91.1	91.2	91.3	91.3
480	8	93.9	94.3	94.5	94.8	94.9	95.0	95.1	95.2	95.3
600	10	95.5	95.9	96.3	96.6	96.7	96.8	97.1	97.2	97.3
1200	20	99.6	100.9	101.9	102.8	103.3	103.6	104.1	104.5	104.8

Power / WPC

Duration		End of Discharge Voltage								
Minutes	Hours	1.85	1.80	1.75	1.70	1.67	1.65	1.60	1.55	1.50
2	0.03	706.8	791.3	872.9	949.0	990.7	1016.6	1073.2	1116.4	1144.4
5	0.08	567.0	614.5	658.7	698.3	719.3	732.1	759.1	778.5	789.6
10	0.17	426.0	451.8	475.3	495.7	506.4	512.7	525.9	534.8	539.4
15	0.25	345.5	362.4	377.5	390.5	397.1	401.1	409.2	414.5	417.0
20	0.33	292.7	304.8	315.5	324.6	329.3	332.0	337.5	341.1	342.6
30	0.50	226.7	233.8	240.1	245.4	248.0	249.6	252.7	254.6	255.4
45	0.75	171.4	175.4	178.8	181.7	183.1	184.0	185.6	186.6	186.9
60	1	138.7	141.2	143.4	145.2	146.1	146.6	147.6	148.2	148.4
120	2	80.2	80.9	81.5	82.0	82.2	82.3	82.6	82.8	82.8
180	3	56.9	57.2	57.5	57.7	57.8	57.9	58.0	58.1	58.1
240	4	44.3	44.5	44.6	44.7	44.8	44.8	44.9	44.9	45.0
300	5	36.3	36.4	36.5	36.6	36.7	36.7	36.7	36.8	36.8
480	8	23.7	23.8	23.8	23.9	23.9	23.9	24.0	24.0	24.0
600	10	19.3	19.3	19.4	19.5	19.5	19.5	19.6	19.6	19.6
1200	20	10.0	10.2	10.2	10.3	10.4	10.4	10.4	10.5	10.5

NSB12 -425 UPS Battery®

Discharge tables @ 25°C (77°F)

Current / A

Duration		End of Discharge Voltage								
Minutes	Hours	1.85	1.80	1.75	1.70	1.67	1.65	1.60	1.55	1.50
2	0.03	421.8	484.6	547.1	606.9	640.5	661.5	708.5	745.5	770.9
5	0.08	325.7	359.7	392.0	421.5	437.5	447.3	468.3	484.0	493.5
10	0.17	238.2	256.2	272.7	287.4	295.1	299.8	309.6	316.5	320.3
15	0.25	190.4	201.9	212.3	221.5	226.2	229.0	234.9	238.9	240.9
20	0.33	159.7	167.8	175.1	181.4	184.7	186.6	190.5	193.2	194.4
30	0.50	122.0	126.7	130.9	134.5	136.3	137.4	139.5	140.9	141.5
45	0.75	91.1	93.7	95.9	97.8	98.8	99.3	100.4	101.1	101.3
60	1	73.1	74.7	76.1	77.3	77.8	78.2	78.8	79.2	79.3
120	2	41.5	41.9	42.3	42.6	42.7	42.8	42.9	43.0	43.0
180	3	29.2	29.4	29.5	29.6	29.7	29.7	29.8	29.8	29.8
240	4	22.6	22.7	22.7	22.8	22.8	22.8	22.9	22.9	22.9
300	5	18.4	18.5	18.5	18.6	18.6	18.6	18.6	18.6	18.7
480	8	11.9	12.0	12.0	12.0	12.1	12.1	12.1	12.1	12.1
600	10	9.7	9.7	9.8	9.8	9.8	9.8	9.8	9.9	9.9
1200	20	5.0	5.1	5.1	5.2	5.2	5.2	5.2	5.3	5.3

Capacity / Ah

Duration		End of Discharge Voltage								
Minutes	Hours	1.85	1.80	1.75	1.70	1.67	1.65	1.60	1.55	1.50
2	0.03	14.1	16.2	18.2	20.2	21.3	22.1	23.6	24.9	25.7
5	0.08	27.1	30.0	32.7	35.1	36.5	37.3	39.0	40.3	41.1
10	0.17	39.7	42.7	45.5	47.9	49.2	50.0	51.6	52.8	53.4
15	0.25	47.6	50.5	53.1	55.4	56.5	57.3	58.7	59.7	60.2
20	0.33	53.2	55.9	58.4	60.5	61.6	62.2	63.5	64.4	64.8
30	0.50	61.0	63.4	65.5	67.2	68.1	68.7	69.8	70.4	70.7
45	0.75	68.3	70.2	71.9	73.4	74.1	74.5	75.3	75.8	76.0
60	1	73.1	74.7	76.1	77.3	77.8	78.2	78.8	79.2	79.3
120	2	83.0	83.8	84.5	85.1	85.4	85.6	85.9	86.1	86.1
180	3	87.5	88.1	88.5	88.9	89.0	89.1	89.3	89.4	89.4
240	4	90.3	90.6	91.0	91.2	91.3	91.4	91.5	91.6	91.6
300	5	92.2	92.4	92.7	92.9	93.0	93.1	93.2	93.2	93.3
480	8	95.5	95.8	96.1	96.3	96.4	96.5	96.7	96.8	96.9
600	10	96.8	97.2	97.6	97.9	98.1	98.2	98.4	98.6	98.7
1200	20	100.4	101.6	102.7	103.6	104.1	104.3	104.9	105.3	105.6

Power / WPC

Duration		End of Discharge Voltage								
Minutes	Hours	1.85	1.80	1.75	1.70	1.67	1.65	1.60	1.55	1.50
2	0.03	784.4	878.1	968.7	1053.1	1099.4	1128.1	1190.9	1238.9	1270.0
5	0.08	617.3	669.1	717.1	760.2	783.2	797.1	826.5	847.6	859.7
10	0.17	457.7	485.5	510.6	532.6	544.0	550.9	565.0	574.6	579.5
15	0.25	368.5	386.5	402.6	416.5	423.6	427.8	436.4	442.1	444.7
20	0.33	310.7	323.5	334.9	344.5	349.5	352.4	358.2	362.0	363.7
30	0.50	239.0	246.5	253.1	258.7	261.5	263.1	266.4	268.4	269.2
45	0.75	179.5	183.7	187.3	190.3	191.8	192.7	194.4	195.5	195.8
60	1	144.7	147.3	149.6	151.5	152.4	152.9	154.0	154.6	154.7
120	2	82.8	83.5	84.2	84.7	84.9	85.1	85.3	85.5	85.5
180	3	55.3	55.8	56.2	56.5	56.7	56.8	57.0	57.1	57.1
240	4	45.3	45.5	45.7	45.8	45.9	45.9	46.0	46.0	46.0
300	5	37.1	37.2	37.3	37.4	37.4	37.5	37.5	37.6	37.6
480	8	24.1	24.1	24.2	24.3	24.3	24.3	24.4	24.4	24.4
600	10	19.5	19.6	19.7	19.7	19.8	19.8	19.8	19.9	19.9
1200	20	10.1	10.2	10.3	10.4	10.4	10.5	10.5	10.5	10.6