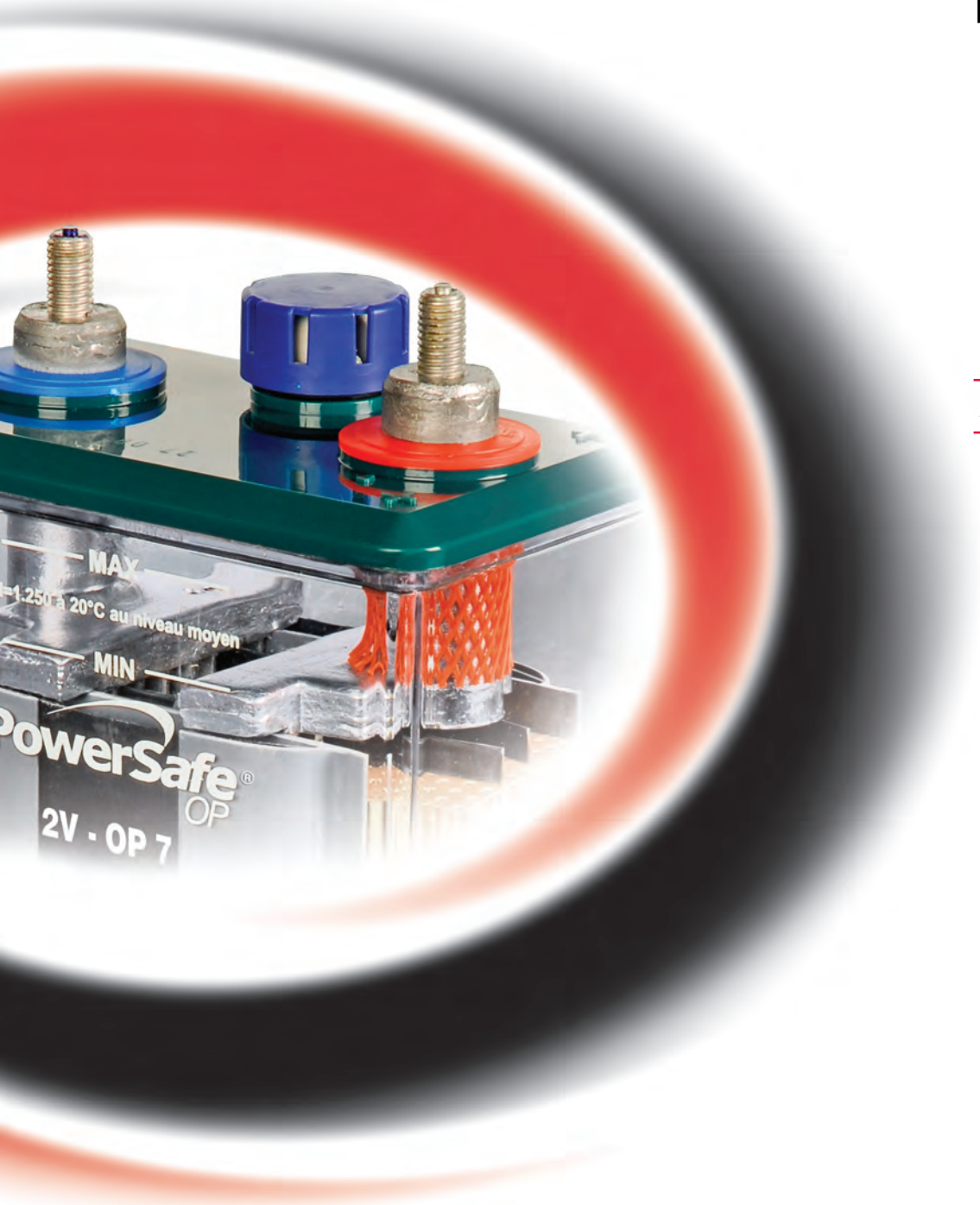
PowerSafe® OP



PERFORMANCE DATA

EnerSys®
Power/Full Solutions

RESERVE
POWER

Constant Current Discharge Performance Data

Discharge Currents (Amperes) to 1.60Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	415.0	262.0	250.0	216.0	185.0	161.0	145.0	131.0	120.0	111.0	103.0	97.0	91.0	76.0	66.0	59.0	53.0	44.0	38.0	31.2	25.0	22.0	19.7	17.9	16.2	14.6	12.6	6.40
OP 7	484.0	305.0	291.0	252.0	216.0	188.0	169.0	153.0	140.0	130.0	120.0	113.0	106.0	89.0	76.0	69.0	62.0	52.0	45.0	36.4	29.1	25.7	23.0	20.9	18.9	17.1	14.7	7.40
OP 8	553.0	348.5	332.5	288.0	247.0	215.0	193.0	174.5	160.0	148.5	137.5	129.0	121.0	101.5	87.0	79.0	71.0	59.0	51.5	41.6	33.3	29.4	26.3	23.9	21.6	19.6	16.8	8.45
OP 9	622.0	392.0	374.0	324.0	278.0	242.0	217.0	196.0	180.0	167.0	155.0	145.0	136.0	114.0	98.0	89.0	80.0	66.0	58.0	46.8	37.4	33.0	29.5	26.9	24.3	22.0	18.9	9.50
OP 10	691.0	436.0	416.0	360.0	309.0	269.0	241.0	218.0	200.0	185.0	172.0	161.0	151.0	127.0	109.0	99.0	88.0	74.0	64.0	52.0	41.6	36.7	32.8	29.9	27.0	24.4	21.0	10.6
OP 11	760.0	480.0	458.0	396.0	340.0	296.0	265.0	240.0	220.0	204.0	189.0	177.0	166.0	140.0	120.0	109.0	97.0	81.0	70.0	57.2	45.8	40.4	36.1	32.9	29.7	26.8	23.1	11.7
OP 12	829.0	523.0	499.0	432.0	371.0	323.0	289.0	262.0	240.0	222.0	206.0	193.0	181.0	152.0	131.0	119.0	106.0	89.0	77.0	62.4	49.9	44.0	39.4	35.9	32.4	29.3	25.2	12.7

Discharge Currents (Amperes) to 1.65Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	362.0	249.0	236.0	198.0	172.0	153.0	137.0	125.0	115.0	106.0	99.0	94.0	88.0	73.0	64.0	58.0	51.0	44.0	38.0	31.2	25.0	22.0	19.7	17.9	16.2	14.6	12.6	6.40
OP 7	422.0	291.0	276.0	231.0	200.0	179.0	160.0	146.0	134.0	124.0	116.0	109.0	103.0	85.0	75.0	67.0	60.0	52.0	45.0	36.4	29.1	25.7	23.0	20.9	18.9	17.1	14.7	7.40
OP 8	482.5	332.5	315.5	264.0	228.5	204.5	183.0	166.5	153.0	141.5	132.5	124.5	117.5	97.5	85.5	77.0	68.5	59.0	51.5	41.6	33.3	29.4	26.3	23.9	21.6	19.6	16.8	8.45
OP 9	543.0	374.0	355.0	297.0	257.0	230.0	206.0	187.0	172.0	159.0	149.0	140.0	132.0	110.0	96.0	87.0	77.0	66.0	58.0	46.8	37.4	33.0	29.5	26.9	24.3	22.0	18.9	9.50
OP 10	603.0	415.0	394.0	330.0	286.0	255.0	229.0	208.0	191.0	177.0	165.0	156.0	147.0	122.0	107.0	96.0	86.0	74.0	64.0	52.0	41.6	36.7	32.8	29.9	27.0	24.4	21.0	10.6
OP 11	663.0	457.0	433.0	363.0	315.0	281.0	252.0	229.0	210.0	195.0	182.0	172.0	162.0	134.0	117.0	106.0	94.0	81.0	70.0	57.2	45.8	40.4	36.1	32.9	29.7	26.8	23.1	11.7
OP 12	724.0	498.0	473.0	396.0	343.0	306.0	275.0	250.0	229.0	212.0	198.0	187.0	176.0	146.0	128.0	115.0	103.0	89.0	77.0	62.4	49.9	44.0	39.4	35.9	32.4	29.3	25.2	12.7

Discharge Currents (Amperes) to 1.70Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	296.0	248.0	213.0	182.0	158.0	142.0	129.0	118.0	109.0	101.0	95.0	90.0	84.0	70.0	62.0	56.0	50.0	43.0	38.0	30.4	25.0	22.0	19.7	17.9	16.2	14.6	12.6	6.40
OP 7	346.0	289.0	249.0	212.0	185.0	166.0	151.0	137.0	127.0	118.0	111.0	105.0	98.0	82.0	73.0	66.0	58.0	50.0	44.0	35.5	29.1	25.7	23.0	20.9	18.9	17.1	14.7	7.40
OP 8	395.5	330.5	284.5	242.5	211.5	189.5	172.5	156.5	145.0	135.0	127.0	120.0	112.0	93.5	83.5	75.0	66.5	57.5	50.0	40.6	33.3	29.4	26.3	23.9	21.6	19.6	16.8	8.45
OP 9	445.0	372.0	320.0	273.0	238.0	213.0	194.0	176.0	163.0	152.0	143.0	135.0	126.0	105.0	94.0	84.0	75.0	65.0	56.0	45.6	37.4	33.0	29.5	26.9	24.3	22.0	18.9	9.50
OP 10	494.0	413.0	355.0	303.0	264.0	237.0	215.0	196.0	181.0	169.0	159.0	150.0	140.0	117.0	104.0	94.0	83.0	72.0	63.0	50.7	41.6	36.7	32.8	29.9	27.0	24.4	21.0	10.6
OP 11	543.0	454.0	391.0	333.0	290.0	261.0	237.0	216.0	199.0	186.0	175.0	165.0	154.0	129.0	114.0	103.0	92.0	79.0	69.0	55.8	45.8	40.4	36.1	32.9	29.7	26.8	23.1	11.7
OP 12	593.0	496.0	426.0	364.0	317.0	284.0	258.0	235.0	217.0	203.0	191.0	180.0	168.0	140.0	125.0	112.0	100.0	86.0	75.0	60.8	49.9	44.0	39.4	35.9	32.4	29.3	25.2	12.7

Discharge Currents (Amperes) to 1.75Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	238.0	238.0	198.0	169.0	150.0	134.0	122.0	112.0	103.0	96.0	91.0	85.0	80.0	67.0	59.0	53.0	48.0	41.0	36.0	29.6	25.0	22.0	19.7	17.9	16.2	14.6	12.6	6.40
OP 7	277.0	277.0	231.0	197.0	175.0	157.0	142.0	130.0	120.0	112.0	106.0	99.0	94.0	78.0	69.0	62.0	56.0	47.0	42.0	34.6	29.1	25.7	23.0	20.9	18.9	17.1	14.7	7.40
OP 8	316.5	316.5	264.0	225.5	200.0	179.5	162.5	148.5	137.5	128.0	121.0	113.5	107.5	89.5	79.0	71.0	64.5	54.0	48.0	39.6	33.3	29.4	26.3	23.9	21.6	19.6	16.8	8.45
OP 9	356.0	356.0	297.0	254.0	225.0	202.0	183.0	167.0	155.0	144.0	136.0	128.0	121.0	101.0	89.0	80.0	73.0	61.0	54.0	44.5	37.4	33.0	29.5	26.9	24.3	22.0	18.9	9.50
OP 10	396.0	396.0	330.0	282.0	250.0	224.0	203.0	186.0	172.0	160.0	151.0	142.0	134.0	112.0	99.0	88.0	81.0	68.0	60.0	49.4	41.6	36.7	32.8	29.9	27.0	24.4	21.0	10.6
OP 11	436.0	436.0	363.0	310.0	275.0	246.0	223.0	205.0	189.0	176.0	166.0	156.0	147.0	123.0	109.0	97.0	89.0	74.0	66.0	54.3	45.8	40.4	36.1	32.9	29.7	26.8	23.1	11.7
OP 12	475.0	475.0	396.0	338.0	300.0	269.0	244.0	223.0	206.0	192.0	181.0	170.0	161.0	134.0	119.0	106.0	97.0	81.0	72.0	59.3	49.9	44.0	39.4	35.9	32.4	29.3	25.2	12.7

Discharge Currents (Amperes) to 1.77Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	220.0	220.0	185.0	161.0	142.0	128.0	116.0	106.0	98.0	92.0	86.0	81.0	77.0	64.0	56.0	51.0	47.0	39.0	36.0	29.2	24.7	21.7	19.3	17.8	16.2	14.6	12.6	6.40
OP 7	257.0	257.0	216.0	188.0	166.0	149.0	136.0	124.0	115.0	107.0	100.0	95.0	90.0	75.0	66.0	60.0	55.0	46.0	42.0	34.0	28.8	25.3	22.5	20.7	18.9	17.1	14.7	7.40
OP 8	293.5	293.5	247.0	214.5	189.5	170.5	155.5	141.5	131.5	122.5	114.5	108.5	103.0	85.5	75.0	68.5	62.5	52.5	47.5	38.9	32.9	28.9	25.8	23.7	21.6	19.6	16.8	8.45
OP 9	330.0	330.0	278.0	241.0	213.0	192.0	175.0	159.0	148.0	138.0	129.0	122.0	116.0	96.0	84.0	77.0	70.0	59.0	53.0	43.7	37.0	32.5	29.0	26.6	24.3	22.0	18.9	9.50
OP 10	367.0	367.0	309.0	268.0	237.0	213.0	194.0	177.0	164.0	153.0	143.0	135.0	129.0	107.0	94.0	86.0	78.0	65.0	59.0	48.6	41.1	36.1	32.2	29.6	27.0	24.4	21.0	10.6
OP 11	404.0	404.0	340.0	295.0	261.0	234.0	213.0	195.0	180.0	168.0	157.0	149.0	142.0	118.0	103.0	94.0	86.0	71.0	65.0	53.5	45.2	39.7	35.4	32.6	29.7	26.8	23.1	11.7
OP 12	440.0	440.0	371.0	322.0	284.0	256.0	233.0	212.0	197.0	184.0	172.0	162.0	155.0	128.0	112.0	103.0	94.0	78.0	71.0	58.3	49.3	43.3	38.6	35.5	32.4	29.3	25.2	12.7

Discharge Currents (Amperes) to 1.80Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	192.0	192.0	164.0	146.0	129.0	117.0	107.0	98.0	91.0	86.0	80.0	76.0	72.0	61.0	53.0	48.0	45.0	39.0	34.0	28.3	24.2	21.4	19.0	17.3	16.2	14.6	12.6	6.40
OP 7	224.0	224.0	191.0	171.0	151.0	137.0	125.0	115.0	106.0	100.0	94.0	88.0	84.0	71.0	62.0	56.0	53.0	45.0	40.0	33.0	28.2	24.9	22.2	20.2	18.9	17.1	14.7	7.40
OP 8	256.0	256.0	218.5	195.5	172.5	156.5	142.5	131.5	121.5	114.5	107.5	100.5	96.0	81.0	71.0	64.5	60.5	51.5	45.5	37.7	32.3	28.5	25.4	23.1	21.6	19.6	16.8	8.45
OP 9	288.0	288.0	246.0	220.0	194.0	176.0	160.0	148.0	137.0	129.0	121.0	113.0	108.0	91.0	80.0	73.0	68.0	58.0	51.0	42.4	36.3	32.0	28.5	26.0	24.3	22.0	18.9	9.50
OP 10	320.0	320.0	273.0	244.0	215.0	195.0	178.0	164.0	152.0	143.0	134.0	126.0	120.0	101.0	89.0	81.0	75.0	64.0	57.0	47.1	40.3	35.6	31.7	28.9	27.0	24.4	21.0	10.6
OP 11	352.0	352.0	300.0	268.0	237.0	215.0	196.0	180.0	167.0	157.0	147.0	139.0	132.0	111.0	98.0	89.0	83.0	71.0	63.0	51.8	44.3	39.2	34.9	31.8	29.7	26.8	23.1	11.7
OP 12	384.0	384.0	328.0	293.0	258.0	234.0	214.0	197.0	182.0	172.0	161.0	151.0	144.0	121.0	106.0	97.0	90.0	77.0	69.0	56.5	48.4	42.7	38.0	34.7	32.4	29.3	25.2	12.7

Discharge Currents (Amperes) to 1.85Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	136.0	136.0	136.0	121.0	110.0	101.0	94.0	88.0	84.0	75.0	73.0	65.0	62.0	55.0	50.0	45.0	42.0	36.0	32.0	26.7	22.9	20.3	18.7	16.7	15.1	13.9	12.0	6.40
OP 7	158.0	158.0	158.0	141.0	128.0	118.0	109.0	102.0	98.0	88.0	85.0	76.0	73.0	64.0	58.0	53.0	49.0	42.0	38.0	31.2	26.7	23.7	21.8	19.5	17.6	16.2	14.0	7.40
OP 8	180.5	180.5	180.5	161.5	146.5	135.0	124.5	116.5	112.0	100.5	97.0	87.0	83.5	73.0	66.5	60.5	56.0	48.0	43.0	35.7	30.6	27.1	25.0	22.3	20.2	18.5	16.0	8.45
OP 9	203.0	203.0	203.0	182.0	165.0	152.0	140.0	131.0	126.0	113.0	109.0	98.0	94.0	82.0	75.0	68.0	63.0	54.0	48.0	40.1	34.4	30.4	28.1	25.0	22.7	20.8	18.0	9.50
OP 10	226.0	226.0	226.0	202.0	183.0	169.0	156.0	146.0	140.0	125.0	121.0	109.0	104.0	91.0	83.0	75.0	70.0	60.0	54.0	44.5	38.2	33.8	31.2	27.8	25.2	23.1	20.0	10.6
OP 11	249.0	249.0	249.0	222.0	201.0	186.0	172.0	161.0	154.0	138.0	133.0	120.0	114.0	100.0	92.0	83.0	77.0	66.0	59.0	49.0	42.0	37.2	34.3	30.6	27.7	25.4	22.0	11.7
OP 12	271.0	271.0	271.0	242.0	220.0	203.0	187.0	175.0	168.0	150.0	145.0	131.0	125.0	109.0	100.0	90.0	84.0	72.0	64.0	53.4	45.8	40.6	37.4	33.4	30.2	27.7	24.0	12.7

Constant Current Discharge Performance Data

PowerSafe® OP

Discharge Currents (Amperes) to 1.90Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	91.0	91.0	91.0	91.0	91.0	84.0	79.0	74.0	65.0	62.0	59.0	58.0	55.0	50.0	45.0	41.0	37.0	33.0	29.0	24.4	20.8	18.1	16.4	14.3	13.0	11.9	10.2	5.50
OP 7	106.0	106.0	106.0	106.0	106.0	98.0	92.0	87.0	76.0	73.0	69.0	67.0	64.0	58.0	53.0	47.0	44.0	39.0	34.0	28.4	24.3	21.1	19.1	16.7	15.1	13.9	11.9	6.40
OP 8	121.0	121.0	121.0	121.0	121.0	112.0	105.0	99.5	87.0	83.5	79.0	76.5	73.0	66.5	60.5	54.0	50.0	44.5	39.0	32.5	27.8	24.2	21.9	19.1	17.3	15.9	13.6	7.30
OP 9	136.0	136.0	136.0	136.0	136.0	126.0	118.0	112.0	98.0	94.0	89.0	86.0	82.0	75.0	68.0	61.0	56.0	50.0	44.0	36.5	31.2	27.2	24.6	21.5	19.4	17.8	15.3	8.20
OP 10	151.0	151.0	151.0	151.0	151.0	140.0	131.0	124.0	109.0	104.0	99.0	96.0	91.0	83.0	75.0	68.0	62.0	55.0	49.0	40.6	34.7	30.2	27.3	23.9	21.6	19.8	17.0	9.10
OP 11	166.0	166.0	166.0	166.0	166.0	154.0	144.0	136.0	120.0	114.0	109.0	106.0	100.0	91.0	83.0	74.0	69.0	61.0	54.0	44.7	38.2	33.2	30.0	26.3	23.8	21.8	18.7	10.0
OP 12	181.0	181.0	181.0	181.0	181.0	168.0	157.0	149.0	131.0	125.0	119.0	115.0	109.0	100.0	90.0	81.0	75.0	66.0	59.0	48.7	41.7	36.2	32.8	28.7	25.9	23.8	20.4	10.9

Discharge Currents (Amperes) to 1.95Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	40.0	39.0	36.0	33.0	31.0	28.0	26.0	23.0	19.0	16.1	14.0	12.5	11.2	10.1	9.20	7.80	5.50
OP 7	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	47.0	46.0	42.0	38.0	36.0	33.0	31.0	27.0	22.2	18.8	16.4	14.6	13.1	11.8	10.7	9.10	6.40
OP 8	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	53.5	52.5	48.0	43.5	41.5	37.5	35.0	30.5	25.4	21.5	18.8	16.7	15.0	13.5	12.3	10.4	7.30
OP 9	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	60.0	59.0	54.0	49.0	47.0	42.0	39.0	34.0	28.5	24.2	21.1	18.7	16.8	15.2	13.8	11.7	8.20
OP 10	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	66.0	65.0	60.0	55.0	52.0	47.0	44.0	38.0	31.7	26.9	23.4	20.8	18.7	16.9	15.3	13.0	9.10
OP 11	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	73.0	72.0	66.0	60.0	57.0	51.0	48.0	42.0	34.9	29.6	25.7	22.9	20.6	18.6	16.8	14.3	10.0
OP 12	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	80.0	78.0	72.0	66.0	62.0	56.0	52.0	46.0	38.0	32.3	28.1	25.0	22.4	20.3	18.4	15.6	10.9

Constant Power Discharge Performance Data

Constant Power Discharge (Watts per cell) to 1.60Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	663.0	437.0	424.0	370.0	321.0	281.0	254.0	233.0	214.0	198.0	184.0	174.0	163.0	139.0	120.0	108.0	98.0	83.0	72.0	58.7	47.7	42.0	37.6	34.4	31.3	28.3	24.6	12.2
OP 7	774.0	510.0	495.0	431.0	375.0	328.0	296.0	272.0	249.0	231.0	215.0	203.0	190.0	162.0	140.0	127.0	114.0	97.0	84.0	68.5	55.7	49.0	43.8	40.2	36.5	33.0	28.7	14.3
OP 8	884.5	582.5	565.5	492.5	428.5	374.5	338.5	311.0	284.5	264.0	245.5	232.0	217.0	185.5	160.0	145.0	130.0	110.5	96.0	78.3	63.7	56.0	50.1	46.0	41.8	37.8	32.8	16.4
OP 9	995.0	655.0	636.0	554.0	482.0	421.0	381.0	350.0	320.0	297.0	276.0	261.0	244.0	209.0	180.0	163.0	146.0	124.0	108.0	88.0	71.6	63.0	56.3	51.7	47.0	42.5	36.9	18.4
OP 10	1105.0	728.0	707.0	616.0	535.0	468.0	423.0	389.0	356.0	330.0	307.0	290.0	271.0	232.0	200.0	181.0	163.0	138.0	120.0	97.8	79.5	70.0	62.6	57.4	52.2	47.2	41.0	20.4
OP 11	1216.0	801.0	778.0	678.0	589.0	515.0	465.0	428.0	392.0	363.0	338.0	319.0	298.0	255.0	220.0	199.0	179.0	152.0	132.0	107.6	87.4	77.0	68.9	63.1	57.4	51.9	45.1	22.4
OP 12	1326.0	874.0	848.0	739.0	642.0	562.0	508.0	467.0	427.0	396.0	368.0	348.0	325.0	278.0	240.0	217.0	195.0	166.0	144.0	117.4	95.4	84.0	75.1	68.9	62.6	56.6	49.2	24.5

Constant Power Discharge (Watts per cell) to 1.65Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	597.0	436.0	402.0	345.0	302.0	271.0	246.0	223.0	206.0	191.0	178.0	169.0	160.0	134.0	118.0	107.0	96.0	83.0	72.0	58.7	47.7	42.0	37.6	34.4	31.3	28.3	24.6	12.2
OP 7	697.0	508.0	469.0	403.0	352.0	316.0	287.0	260.0	241.0	223.0	208.0	197.0	186.0	157.0	137.0	125.0	112.0	97.0	84.0	68.5	55.7	49.0	43.8	40.2	36.5	33.0	28.7	14.3
OP 8	796.5	580.5	536.0	460.5	402.5	361.0	328.0	297.5	275.5	254.5	237.5	225.5	212.5	179.5	156.5	142.5	128.0	110.5	96.0	78.3	63.7	56.0	50.1	46.0	41.8	37.8	32.8	16.4
OP 9	896.0	653.0	603.0	518.0	453.0	406.0	369.0	335.0	310.0	286.0	267.0	254.0	239.0	202.0	176.0	160.0	144.0	124.0	108.0	88.0	71.6	63.0	56.3	51.7	47.0	42.5	36.9	18.4
OP 10	995.0	726.0	670.0	575.0	503.0	451.0	410.0	372.0	344.0	318.0	297.0	282.0	266.0	224.0	196.0	178.0	160.0	138.0	120.0	97.8	79.5	70.0	62.6	57.4	52.2	47.2	41.0	20.4
OP 11	1095.0	799.0	737.0	633.0	553.0	496.0	451.0	409.0	378.0	350.0	327.0	310.0	293.0	246.0	216.0	196.0	176.0	152.0	132.0	107.6	87.5	77.0	68.9	63.1	57.4	51.9	45.1	22.4
OP 12	1194.0	871.0	804.0	690.0	604.0	541.0	492.0	446.0	413.0	382.0	356.0	338.0	319.0	269.0	235.0	214.0	192.0	166.0	144.0	117.4	95.4	84.0	75.1	68.9	62.6	56.6	49.2	24.5

Constant Power Discharge (Watts per cell) to 1.70Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	504.0	434.0	373.0	322.0	282.0	254.0	232.0	213.0	196.0	185.0	175.0	165.0	155.0	130.0	115.0	104.0	93.0	81.0	71.0	57.5	47.7	42.0	37.6	34.4	31.3	28.3	24.6	12.2
OP 7	588.0	506.0	435.0	375.0	329.0	297.0	270.0	249.0	229.0	216.0	204.0	193.0	181.0	151.0	135.0	121.0	109.0	94.0	83.0	67.1	55.7	49.0	43.8	40.2	36.5	33.0	28.7	14.3
OP 8	672.0	578.5	497.0	428.5	376.0	339.5	308.5	284.5	261.5	246.5	233.5	220.5	206.5	172.5	154.0	138.5	124.5	107.5	95.0	76.7	63.7	56.0	50.1	46.0	41.8	37.8	32.8	16.4
OP 9	756.0	651.0	559.0	482.0	423.0	382.0	347.0	320.0	294.0	277.0	263.0	248.0	232.0	194.0	173.0	156.0	140.0	121.0	107.0	86.2	71.6	63.0	56.3	51.7	47.0	42.5	36.9	18.4
OP 10	840.0	723.0	621.0	536.0	470.0	424.0	386.0	355.0	327.0	308.0	292.0	275.0	258.0	216.0	192.0	173.0	156.0	134.0	118.0	95.8	79.5	70.0	62.6	57.4	52.2	47.2	41.0	20.4
OP 11	924.0	795.0	683.0	590.0	517.0	466.0	425.0	391.0	360.0	339.0	321.0	303.0	284.0	238.0	212.0	191.0	171.0	148.0	130.0	105.4	87.5	77.0	68.9	63.1	57.4	51.9	45.1	22.4
OP 12	1008.0	868.0	745.0	643.0	564.0	509.0	463.0	426.0	392.0	370.0	350.0	330.0	310.0	259.0	231.0	208.0	187.0	161.0	142.0	115.0	95.4	84.0	75.1	68.9	62.6	56.6	49.2	24.5

Constant Power Discharge (Watts per cell) to 1.75Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	416.0	416.0	350.0	303.0	269.0	243.0	221.0	203.0	188.0	176.0	167.0	157.0	149.0	125.0	110.0	99.0	90.0	77.0	68.0	56.3	47.7	42.0	37.6	34.4	31.3	28.3	24.6	12.2
OP 7	486.0	486.0	409.0	354.0	314.0	284.0	258.0	237.0	220.0	206.0	195.0	183.0	174.0	146.0	129.0	116.0	105.0	89.0	80.0	65.7	55.7	49.0	43.8	40.2	36.5	33.0	28.7	14.3
OP 8	555.5	555.5	467.5	404.5	359.0	324.5	295.0	270.5	251.5	235.5	223.0	209.5	199.0	166.5	147.0	132.5	120.5	102.0	91.5	75.1	63.7	56.0	50.1	46.0	41.8	37.8	32.8	16.4
OP 9	625.0	625.0	526.0	455.0	404.0	365.0	332.0	304.0	283.0	265.0	251.0	236.0	224.0	187.0	165.0	149.0	136.0	115.0	103.0	84.5	71.6	63.0	56.3	51.7	47.0	42.5	36.9	18.4
OP 10	694.0	694.0	584.0	505.0	449.0	405.0	369.0	338.0	314.0	294.0	279.0	262.0	249.0	208.0	184.0	165.0	151.0	128.0	114.0	93.9	79.5	70.0	62.6	57.4	52.2	47.2	41.0	20.4
OP 11	763.0	763.0	642.0	556.0	494.0	446.0	406.0	372.0	345.0	323.0	307.0	288.0	274.0	229.0	202.0	182.0	166.0	141.0	126.0	103.3	87.5	77.0	68.9	63.1	57.4	51.9	45.1	22.4
OP 12	833.0	833.0	701.0	606.0	539.0	486.0	443.0	406.0	377.0	353.0	335.0	314.0	299.0	250.0	221.0	198.0	181.0	153.0	137.0	112.7	95.4	84.0	75.1	68.9	62.6	56.6	49.2	24.5

Constant Power Discharge Performance Data

PowerSafe® OP

Constant Power Discharge (Watts per cell) to 1.77Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	389.0	389.0	332.0	287.0	257.0	233.0	212.0	195.0	181.0	171.0	160.0	151.0	145.0	119.0	106.0	97.0	88.0	74.0	68.0	55.7	47.1	41.4	37.1	34.1	31.3	28.3	24.6	12.2
OP 7	454.0	454.0	388.0	335.0	300.0	272.0	248.0	228.0	211.0	200.0	186.0	176.0	169.0	139.0	123.0	113.0	103.0	86.0	79.0	65.0	55.0	48.3	43.3	39.8	36.5	33.0	28.7	14.3
OP 8	519.0	519.0	443.5	383.0	342.5	310.5	283.5	260.5	241.0	228.5	212.5	201.0	193.0	159.0	140.5	129.0	118.0	98.5	90.0	74.3	62.9	55.2	49.5	45.5	41.8	37.8	32.8	16.4
OP 9	584.0	584.0	499.0	431.0	385.0	349.0	319.0	293.0	271.0	257.0	239.0	226.0	217.0	179.0	158.0	145.0	133.0	111.0	101.0	83.6	70.7	62.1	55.7	51.1	47.0	42.5	36.9	18.4
OP 10	649.0	649.0	554.0	479.0	428.0	388.0	354.0	325.0	301.0	285.0	266.0	251.0	241.0	199.0	176.0	161.0	147.0	124.0	113.0	92.9	78.5	69.0	61.9	56.8	52.2	47.2	41.0	20.4
OP 11	714.0	714.0	609.0	527.0	471.0	427.0	389.0	358.0	331.0	314.0	293.0	276.0	265.0	219.0	194.0	177.0	162.0	136.0	124.0	102.2	86.4	75.9	68.1	62.5	57.4	51.9	45.1	22.4
OP 12	779.0	779.0	665.0	575.0	514.0	466.0	425.0	390.0	361.0	342.0	319.0	301.0	289.0	239.0	211.0	194.0	177.0	148.0	135.0	111.5	94.2	82.8	74.3	68.2	62.6	56.6	49.2	24.5

Constant Power Discharge (Watts per cell) to 1.80Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	346.0	346.0	298.0	267.0	236.0	215.0	197.0	183.0	170.0	160.0	150.0	142.0	135.0	114.0	101.0	91.0	86.0	74.0	66.0	54.2	46.4	41.0	36.5	33.2	31.3	28.3	24.6	12.2
OP 7	403.0	403.0	348.0	312.0	275.0	251.0	230.0	214.0	199.0	187.0	175.0	166.0	158.0	133.0	118.0	107.0	100.0	86.0	77.0	63.3	54.2	47.9	42.6	38.8	36.5	33.0	28.7	14.3
OP 8	460.5	460.5	397.5	356.5	314.5	287.0	263.0	244.5	227.5	213.5	200.0	189.5	180.5	152.0	135.0	122.0	114.5	98.5	87.5	72.4	62.0	54.8	48.7	44.4	41.8	37.8	32.8	16.4
OP 9	518.0	518.0	447.0	401.0	354.0	323.0	296.0	275.0	256.0	240.0	225.0	213.0	203.0	171.0	152.0	137.0	129.0	111.0	98.0	81.4	69.7	61.6	54.8	49.9	47.0	42.5	36.9	18.4
OP 10	576.0	576.0	497.0	445.0	393.0	359.0	329.0	305.0	284.0	267.0	250.0	237.0	225.0	190.0	169.0	152.0	143.0	123.0	109.0	90.4	77.4	68.4	60.9	55.4	52.2	47.2	41.0	20.4
OP 11	634.0	634.0	547.0	490.0	432.0	395.0	362.0	336.0	312.0	294.0	275.0	261.0	248.0	209.0	185.0	168.0	158.0	136.0	120.0	99.4	85.1	75.2	67.0	60.9	57.4	51.9	45.1	22.4
OP 12	691.0	691.0	596.0	534.0	472.0	431.0	395.0	366.0	341.0	320.0	300.0	284.0	270.0	228.0	202.0	183.0	172.0	148.0	131.0	108.5	92.9	82.1	73.1	66.5	62.6	56.6	49.2	24.5

Constant Power Discharge (Watts per cell) to 1.85Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	251.0	251.0	226.0	207.0	207.0	191.0	176.0	167.0	159.0	142.0	137.0	124.0	118.0	104.0	95.0	87.0	81.0	69.0	62.0	51.5	44.3	39.1	36.1	32.2	29.2	26.8	23.4	12.2
OP 7	293.0	293.0	264.0	242.0	242.0	223.0	205.0	195.0	186.0	165.0	160.0	144.0	138.0	121.0	111.0	101.0	94.0	81.0	72.0	60.1	51.7	45.6	42.1	37.6	34.1	31.3	27.3	14.3
OP 8	334.5	334.5	301.5	276.5	276.5	254.5	234.5	223.0	212.5	188.5	183.0	164.5	157.5	138.5	127.0	115.5	107.5	92.5	82.5	68.7	59.1	52.2	48.2	43.0	39.0	35.8	31.2	16.4
OP 9	376.0	376.0	339.0	311.0	311.0	286.0	264.0	251.0	239.0	212.0	206.0	185.0	177.0	156.0	143.0	130.0	121.0	104.0	93.0	77.2	66.4	58.7	54.2	48.3	43.8	40.2	35.1	18.4
OP 10	418.0	418.0	377.0	345.0	345.0	318.0	293.0	279.0	265.0	236.0	229.0	206.0	197.0	173.0	159.0	145.0	135.0	116.0	103.0	85.8	73.8	65.2	60.2	53.7	48.7	44.7	39.0	20.4
OP 11	460.0	460.0	415.0	380.0	380.0	350.0	322.0	307.0	292.0	260.0	252.0	227.0	217.0	190.0	175.0	159.0	148.0	127.0	113.0	94.4	81.2	71.7	66.2	59.1	53.6	49.2	42.9	22.4
OP 12	502.0	502.0	452.0	414.0	414.0	382.0	352.0	335.0	318.0	283.0	275.0	247.0	236.0	208.0	191.0	174.0	162.0	139.0	123.0	103.0	88.6	78.2	72.2	64.4	58.4	53.6	46.8	24.5

Constant Power Discharge (Watts per cell) to 1.90Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	172.0	172.0	172.0	172.0	172.0	160.0	149.0	141.0	131.0	121.0	115.0	112.0	106.0	97.0	87.0	78.0	72.0	64.0	57.0	47.2	40.3	35.1	31.8	27.8	25.1	23.0	19.8	10.6
OP 7	201.0	201.0	201.0	201.0	201.0	187.0	174.0	165.0	153.0	141.0	134.0	130.0	123.0	113.0	102.0	91.0	84.0	75.0	66.0	55.1	47.0	41.0	37.1	32.5	29.3	26.8	23.1	12.3
OP 8	229.5	229.5	229.5	229.5	229.5	213.5	199.0	188.5	174.5	161.0	153.0	148.5	140.5	129.0	116.5	104.0	96.0	85.5	75.5	63.0	53.7	46.9	42.4	37.2	33.5	30.7	26.4	14.1
OP 9	258.0	258.0	258.0	258.0	258.0	240.0	224.0	212.0	196.0	181.0	172.0	167.0	158.0	145.0	131.0	117.0	108.0	96.0	85.0	70.8	60.4	52.7	47.7	41.8	37.7	34.5	29.7	15.8
OP 10	287.0	287.0	287.0	287.0	287.0	267.0	249.0	235.0	218.0	201.0	191.0	186.0	176.0	161.0	146.0	131.0	120.0	107.0	95.0	78.7	67.1	58.5	53.0	46.4	41.9	38.3	33.0	17.6
OP 11	316.0	316.0	316.0	316.0	316.0	294.0	274.0	259.0	240.0	221.0	210.0	205.0	194.0	177.0	160.0	144.0	132.0	118.0	104.0	86.6	73.8	64.4	58.3	51.0	46.1	42.1	36.3	19.4
OP 12	344.0	344.0	344.0	344.0	344.0	320.0	299.0	282.0	261.0	241.0	229.0	223.0	211.0	193.0	175.0	157.0	144.0	128.0	114.0	94.4	80.5	70.2	63.6	55.7	50.3	46.0	39.6	21.1

Constant Power Discharge (Watts per cell) to 1.95Vpc at 20°C

Battery Type	Standby Time (Minutes)												Standby Time (Hours)															
	1	5	10	15	20	25	30	35	40	45	50	55	1	1.15	1.30	1.45	2	2.30	3	4	5	6	7	8	9	10	12	24
OP 6	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	76.0	70.0	64.0	61.0	55.0	51.0	44.0	37.1	31.3	27.4	24.4	21.9	19.8	17.9	15.0	7.80
OP 7	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	89.0	82.0	75.0	71.0	64.0	60.0	52.0	43.3	36.5	31.9	28.4	25.6	23.1	20.9	17.5	9.10
OP 8	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	101.5	93.5	85.5	81.0	73.0	68.5	59.5	49.5	41.8	36.5	32.5	29.3	26.4	23.9	20.0	10.4
OP 9	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	114.0	105.0	96.0	91.0	82.0	77.0	67.0	55.7	47.0	41.0	36.5	32.9	29.7	26.9	22.5	11.7
OP 10	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	127.0	117.0	107.0	101.0	91.0	85.0	74.0	61.9	52.2	45.6	40.6	36.5	33.0	29.9	25.0	13.0
OP 11	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	140.0	129.0	117.0	112.0	100.0	94.0	81.0	68.1	57.4	50.2	44.7	40.2	36.3	32.9	27.5	14.3
OP 12	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	152.0	140.0	128.0	122.0	110.0	102.0	89.0	74.3	62.6	54.7	48.7	43.8	39.6	35.9	30.0	15.6

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