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RANGE SUMMARY

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# Introduction to . . . The VARTA RL Range



VARTA® pocket plate NiCd cells are suitable for industrial applications requiring proven reliability and the highest safety integrity. The RL range is optimised for applications covering discharges of 1 hour to 100 hours or more.

Typical RL battery applications include emergency lighting, railway, telecommunications, photovoltaic, marine and alarm systems.

With over 100 years of experience in the design and manufacture of NiCd batteries, supported by an ethos of continuous improvement and technical development, EnerSys™ offers a world-leading range of solutions to suit varying applications.

Cost effectiveness, safety and durability make the VARTA RL range NiCd battery one of the most reliable and powerful systems on the market.

## Features & Benefits

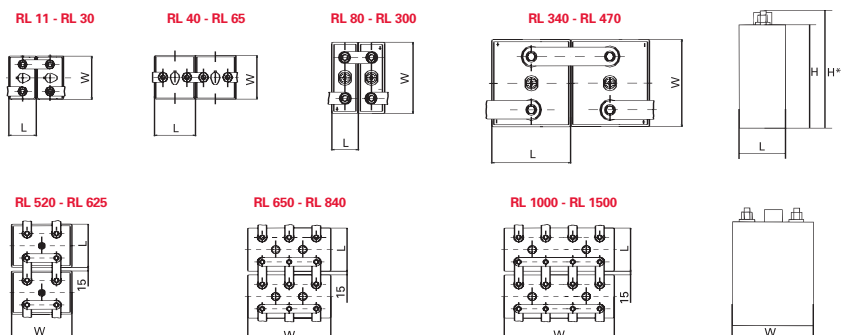
- Capacity Range: 11Ah - 1500Ah
- Recommended discharge time: 1 hr to 100 hr
- Excellent resistance against electrical and mechanical stress
- No risks of terminal decomposition or sudden death due to the plate construction
- Proven long service life: 20 years in stationary cycling operations
- Operational temperature: - 40°C to + 50°C
- Long storage life
- Robust construction - hard-wearing and insensitive to faults in maintenance
- Generous electrolyte reserve - long maintenance interval
- Translucent plastic cases for visible electrolyte level
- Conforms to IEC60623/KL...P

## General Specifications

Type*	Capacity (Ah)	Nominal Dimensions						Weight			Terminal			
	as per IEC60623 cl. 1.3.3.	Length mm	in	Width mm	in	Height mm	in	Height* mm	in	Without electrolyte kg		lbs	Total weight kg	lbs
RL 11	11	46	1.8	85	3.3	237	9.3	257	10.1	0.75	1.7	1.30	2.9	M10 M
RL 18	18	46	1.8	85	3.3	237	9.3	257	10.1	0.92	2.0	1.41	3.1	M10 M
RL 24	24	46	1.8	85	3.3	237	9.3	257	10.1	1.12	2.5	1.51	3.3	M10 M
RL 30	30	46	1.8	85	3.3	237	9.3	257	10.1	1.27	2.8	1.64	3.6	M10 M
RL 40	40	85	3.3	85	3.3	237	9.3	257	10.1	1.80	4.0	2.68	5.9	M10 M
RL 45	45	85	3.3	85	3.3	237	9.3	257	10.1	1.92	4.2	2.80	6.2	M10 M
RL 55	55	85	3.3	85	3.3	237	9.3	257	10.1	2.05	4.5	2.82	6.2	M10 M
RL 65	65	85	3.3	85	3.3	237	9.3	257	10.1	2.30	5.1	2.97	6.5	M10 M
RL 80	80	69	2.7	134	5.3	364	14.3	394	15.5	3.37	7.4	5.32	11.7	M16 M
RL 100	100	69	2.7	134	5.3	364	14.3	394	15.5	3.78	8.3	5.61	12.4	M16 M
RL 120	120	69	2.7	134	5.3	364	14.3	394	15.5	3.96	8.7	5.74	12.7	M16 M
RL 140	140	69	2.7	134	5.3	364	14.3	394	15.5	4.47	9.9	6.07	13.4	M16 M
RL 150	150	70	2.8	164	6.6	364	14.3	394	15.5	4.90	10.8	7.10	15.7	M16 M
RL 160	160	108	4.3	164	6.6	364	14.3	394	15.5	5.70	12.6	9.80	21.6	M16 M
RL 185	185	108	4.3	164	6.6	364	14.3	394	15.5	6.33	14.0	9.99	22.0	M16 M
RL 200	200	108	4.3	164	6.6	364	14.3	394	15.5	6.69	14.7	10.35	22.8	M16 M
RL 230	230	108	4.3	164	6.6	364	14.3	394	15.5	7.50	16.5	10.80	23.8	M16 M
RL 270	270	108	4.3	164	6.6	364	14.3	394	15.5	8.32	18.3	11.26	24.8	M16 M
RL 300	300	108	4.3	164	6.6	364	14.3	394	15.5	9.14	20.1	11.72	25.8	M16 M
RL 340	340	158	6.2	164	6.6	364	14.3	392	15.5	11.40	25.1	16.60	36.6	M10 F
RL 370	370	158	6.2	164	6.6	364	14.3	392	15.5	12.20	26.9	17.10	37.7	M10 F
RL 400	400	158	6.2	164	6.6	364	14.3	392	15.5	13.00	28.7	17.70	39.0	M10 F
RL 435	435	158	6.2	164	6.6	364	14.3	392	15.5	13.80	30.4	18.20	40.1	M10 F
RL 470	470	158	6.2	164	6.6	364	14.3	392	15.5	14.60	32.2	18.80	41.4	M10 F
RL 520	520	176	6.9	246	9.7	382	15.0	408	16.1	18.30	40.3	26.70	58.9	M10 F
RL 560	560	176	6.9	246	9.7	382	15.0	408	16.1	18.80	41.4	27.20	60.0	M10 F
RL 625	625	176	6.9	246	9.7	382	15.0	408	16.1	20.40	45.0	28.30	62.4	M10 F
RL 650	650	176	6.9	368	14.5	382	15.0	408	16.1	23.70	52.2	37.00	81.6	M10 F
RL 740	740	176	6.9	368	14.5	382	15.0	408	16.1	25.90	57.1	38.60	85.1	M10 F
RL 840	840	176	6.9	368	14.5	382	15.0	408	16.1	28.10	61.9	40.60	89.5	M10 F
RL 1000	1000	176	6.9	448	17.6	382	15.0	408	16.1	39.30	86.6	52.50	115.7	M10 F
RL 1250	1250	176	6.9	558	22.0	382	15.0	408	16.1	42.50	93.7	62.00	136.7	M10 F
RL 1500	1500	176	6.9	558	22.0	382	15.0	408	16.1	48.90	107.8	66.40	146.4	M10 F

\* Includes height over terminals

## Battery Layout



### Current (Amps) to 1.15V @ 20°C (68°F)

Type	Minutes	Hours									
	30	1	2	3	4	5	6	7	8	9	10
RL 11	5.95	4.93	3.45	2.66	2.29	2.05	1.78	1.54	1.36	1.22	1.10
RL 18	9.78	8.07	5.64	4.35	3.75	3.36	2.91	2.57	2.25	2.00	1.80
RL 24	13.04	10.76	7.52	5.80	5.00	4.48	3.88	3.42	3.00	2.66	2.40
RL 30	16.30	13.45	9.40	7.25	6.25	5.60	4.85	4.28	3.75	3.33	3.00
RL 40	20.00	17.20	12.90	9.80	8.40	7.40	6.30	5.50	4.80	4.30	3.90
RL 45	22.50	19.40	14.60	11.00	9.40	8.30	7.10	6.10	5.40	4.80	4.40
RL 55	27.50	23.70	17.80	13.50	11.50	10.20	8.70	7.50	6.60	5.90	5.30
RL 65	32.50	28.00	21.00	16.00	13.60	12.00	10.30	8.90	7.80	7.00	6.30
RL 80	38.40	33.60	25.80	20.30	16.80	14.20	12.00	10.40	9.40	8.40	7.50
RL 100	48.00	42.00	32.30	25.40	21.00	17.70	15.00	13.00	11.70	10.50	9.40
RL 120	57.60	50.40	38.80	30.50	25.20	21.20	18.00	15.60	14.00	12.60	11.30
RL 140	67.20	58.80	45.20	35.60	29.40	24.80	21.00	18.20	16.40	14.70	13.20
RL 150	69.95	61.10	47.50	37.70	31.35	26.60	22.65	19.60	17.45	15.60	14.05
RL 160	72.70	63.40	49.80	39.80	33.30	28.40	24.30	21.00	18.50	16.50	14.90
RL 185	73.70	64.30	52.60	43.60	37.30	32.60	28.50	25.00	21.70	18.80	16.70
RL 200	79.70	69.50	56.80	47.20	40.30	35.20	30.80	26.70	23.30	20.80	18.70
RL 230	91.60	80.00	65.30	54.30	46.40	40.50	35.40	30.70	26.80	23.90	21.50
RL 270	107.60	93.90	76.70	63.70	54.40	47.60	41.60	36.00	31.50	28.00	25.20
RL 300	119.50	104.30	85.20	70.80	60.50	52.90	46.20	40.00	34.90	31.10	28.00
RL 340	141.00	118.00	94.00	80.00	69.00	60.00	50.30	43.50	38.30	34.30	31.10
RL 370	154.00	128.00	102.00	87.00	75.00	65.00	54.80	47.30	41.70	37.30	33.90
RL 400	166.00	139.00	111.00	94.00	81.00	71.00	59.20	51.10	45.10	40.30	36.30
RL 435	180.00	151.00	120.00	103.00	88.00	77.00	64.40	55.60	49.10	43.90	39.80
RL 470	195.00	163.00	130.00	111.00	95.00	83.00	69.60	60.10	53.00	47.40	43.00
RL 520	215.00	180.00	143.00	122.00	105.00	91.00	76.00	66.00	58.00	52.00	47.00
RL 560	232.00	194.00	154.00	131.00	113.00	98.00	82.00	71.00	62.00	56.00	51.00
RL 625	258.00	216.00	172.00	147.00	126.00	109.00	91.00	79.00	70.00	63.00	56.00
RL 650	269.00	225.00	179.00	153.00	131.00	114.00	95.00	83.00	73.00	65.00	59.00
RL 740	306.00	256.00	204.00	174.00	149.00	130.00	108.00	94.00	83.00	74.00	67.00
RL 840	347.00	291.00	231.00	197.00	170.00	147.00	123.00	107.00	94.00	84.00	76.00
RL 1000	415.00	347.00	277.00	235.00	202.00	177.00	147.00	127.00	112.00	100.00	90.00
RL 1250	519.00	434.00	346.00	294.00	253.00	221.00	184.00	159.00	140.00	125.00	113.00
RL 1500	623.00	521.00	416.00	353.00	303.00	266.00	221.00	191.00	168.00	150.00	135.00

### Current (Amps) to 1.10V @ 20°C (68°F)

Type	Minutes	Hours									
	30	1	2	3	4	5	6	7	8	9	10
RL 11	7.46	6.22	4.25	3.10	2.42	2.15	1.82	1.60	1.41	1.25	1.13
RL 18	12.21	10.17	6.96	5.07	3.96	3.51	2.97	2.63	2.30	2.05	1.84
RL 24	16.28	13.56	9.28	6.76	5.28	4.68	3.96	3.51	3.07	2.73	2.46
RL 30	20.35	16.95	11.60	8.45	6.60	5.85	4.95	4.39	3.84	3.41	3.07
RL 40	26.10	21.50	15.70	11.70	9.20	7.70	6.50	5.60	4.90	4.40	3.90
RL 45	29.50	24.20	17.70	13.20	10.30	8.60	7.30	6.40	5.60	4.90	4.40
RL 55	36.00	29.60	21.60	16.10	12.60	10.60	8.90	7.80	6.80	6.00	5.40
RL 65	42.50	35.00	25.50	19.00	14.90	12.50	10.50	9.10	8.00	7.10	6.40
RL 80	49.20	41.60	31.40	24.40	19.20	15.60	13.20	11.30	9.90	8.80	8.00
RL 100	61.50	52.00	39.20	30.50	24.00	19.50	16.50	14.10	12.30	11.00	10.00
RL 120	73.80	62.40	47.00	36.60	28.80	23.40	19.40	17.00	14.80	13.20	12.00
RL 140	86.10	72.80	54.90	42.70	33.60	27.30	23.10	19.80	17.30	15.40	14.00
RL 150	89.50	75.65	57.65	45.35	35.85	29.10	24.70	21.25	18.60	16.55	15.00
RL 160	92.90	78.50	60.40	48.00	38.10	30.90	26.30	22.70	19.90	17.70	16.00
RL 185	94.30	79.60	64.20	53.00	42.90	34.70	30.10	26.40	23.10	20.60	18.50
RL 200	101.90	86.00	69.40	57.30	46.30	37.50	32.60	28.60	25.00	22.20	20.00
RL 230	117.20	98.90	79.80	65.90	53.30	43.10	37.50	32.90	28.80	25.60	23.00
RL 270	137.60	116.10	93.70	77.40	62.60	50.60	44.00	38.60	33.80	30.00	27.00
RL 300	152.80	129.00	104.10	86.00	69.50	56.20	48.80	42.80	37.50	33.30	30.00
RL 340	188.00	163.00	120.00	95.00	80.00	67.00	55.80	48.10	42.40	37.90	34.30
RL 370	204.00	177.00	131.00	103.00	87.00	72.00	60.70	52.40	46.10	41.30	37.30
RL 400	221.00	191.00	141.00	111.00	94.00	78.00	65.60	56.60	49.90	44.60	40.30
RL 435	240.00	208.00	154.00	121.00	102.00	85.00	71.40	61.50	54.20	48.50	43.90
RL 470	260.00	225.00	166.00	131.00	110.00	92.00	77.10	66.50	58.60	52.40	47.40
RL 520	287.00	248.00	183.00	144.00	121.00	101.00	85.00	73.00	64.00	57.00	52.00
RL 560	309.00	267.00	197.00	155.00	130.00	109.00	92.00	79.00	69.00	61.00	56.00
RL 625	345.00	298.00	220.00	173.00	145.00	121.00	102.00	88.00	77.00	69.00	63.00
RL 650	359.00	310.00	229.00	180.00	151.00	126.00	106.00	91.00	80.00	71.00	65.00
RL 740	408.00	353.00	260.00	205.00	172.00	144.00	121.00	104.00	91.00	81.00	74.00
RL 840	464.00	401.00	296.00	233.00	195.00	163.00	137.00	118.00	103.00	92.00	84.00
RL 1000	552.00	477.00	352.00	277.00	235.00	195.00	162.00	140.00	122.00	110.00	100.00
RL 1250	690.00	596.00	440.00	346.00	294.00	244.00	203.00	175.00	153.00	138.00	125.00
RL 1500	828.00	716.00	528.00	416.00	353.00	293.00	243.00	210.00	183.00	165.00	150.00

Current (Amps) to 1.05V @ 20°C (68°F)

Type	Minutes	Hours									
	30	1	2	3	4	5	6	7	8	9	10
RL 11	9.53	7.37	4.84	3.34	2.62	2.18	1.84	1.61	1.42	1.26	1.14
RL 18	15.60	12.06	7.92	5.46	4.29	3.57	3.02	2.66	2.33	2.06	1.86
RL 24	20.80	16.08	10.96	7.28	5.72	4.76	4.02	3.54	3.11	2.75	2.48
RL 30	26.00	20.10	13.20	9.10	7.15	5.95	5.03	4.43	3.89	3.44	3.10
RL 40	32.00	25.20	16.90	12.30	9.50	7.90	6.60	5.70	5.00	4.50	4.10
RL 45	36.00	28.40	19.10	13.80	10.60	8.80	7.40	6.50	5.60	5.10	4.60
RL 55	44.00	34.70	23.30	16.90	13.00	10.80	9.10	7.90	6.90	6.20	5.60
RL 65	52.00	41.00	27.50	20.00	15.40	12.80	10.70	9.30	8.20	7.30	6.60
RL 80	62.00	50.80	35.60	25.70	19.50	15.80	13.30	11.40	9.90	9.00	8.10
RL 100	77.50	63.50	44.50	32.10	24.40	19.80	16.60	14.30	12.40	11.20	10.10
RL 120	93.00	76.20	53.40	38.50	29.20	23.80	19.90	17.10	14.90	13.40	12.10
RL 140	108.50	88.90	62.30	44.90	34.10	27.70	23.20	20.00	17.40	15.70	14.10
RL 150	112.75	92.30	65.40	47.95	37.00	29.70	24.90	21.50	18.80	16.85	15.15
RL 160	117.00	95.70	68.50	51.00	39.30	31.70	26.60	23.00	20.20	18.00	16.20
RL 185	115.10	96.60	72.50	57.70	45.20	36.40	30.50	26.70	23.40	20.70	18.70
RL 200	124.40	102.20	78.40	62.40	48.90	39.40	33.00	28.90	25.30	22.40	20.20
RL 230	143.10	117.60	90.20	71.80	56.20	45.30	38.00	33.20	29.10	25.80	23.20
RL 270	168.00	138.00	105.90	84.30	66.00	53.10	44.60	39.00	34.10	30.30	27.30
RL 300	186.00	153.30	117.60	93.60	73.30	59.00	49.50	42.90	37.70	33.60	30.30
RL 340	224.00	188.00	140.00	104.00	82.00	67.30	56.40	48.60	42.80	38.30	34.70
RL 370	244.00	205.00	153.00	113.00	90.00	73.00	61.40	52.90	46.60	41.70	37.70
RL 400	264.00	221.00	165.00	123.00	97.00	79.00	66.40	57.20	50.40	45.10	40.80
RL 435	287.00	241.00	180.00	133.00	105.50	86.00	72.20	62.20	54.80	49.10	44.30
RL 470	310.00	260.00	194.00	144.00	114.00	93.00	78.00	67.20	59.20	53.00	47.90
RL 520	342.00	287.00	214.00	159.00	126.00	102.00	86.00	74.00	65.00	58.00	53.00
RL 560	368.00	309.00	230.00	171.00	136.00	110.00	93.00	80.00	70.00	62.00	57.00
RL 625	411.00	345.00	257.00	191.00	151.00	123.00	103.00	89.00	78.00	70.00	64.00
RL 650	428.00	359.00	268.00	199.00	158.00	128.00	108.00	93.00	81.00	73.00	66.00
RL 740	487.00	408.00	305.00	226.00	179.00	145.00	122.00	105.00	93.00	83.00	75.00
RL 840	552.00	464.00	346.00	257.00	204.00	165.00	139.00	120.00	105.00	94.00	86.00
RL 1000	660.00	552.00	412.00	307.00	242.00	197.00	165.00	142.00	125.00	112.00	102.00
RL 1250	825.00	690.00	515.00	384.00	303.00	246.00	206.00	178.00	156.00	140.00	128.00
RL 1500	990.00	828.00	618.00	461.00	363.00	296.00	248.00	213.00	188.00	168.00	153.00

Current (Amps) to 1.00V @ 20°C (68°F)

Type	Minutes	Hours									
	30	1	2	3	4	5	6	7	8	9	10
RL 11	11.33	8.58	5.21	3.65	2.74	2.20	1.86	1.64	1.44	1.28	1.15
RL 18	18.54	14.04	8.52	5.97	4.48	3.60	3.04	2.69	2.35	2.09	1.88
RL 24	24.72	18.72	11.36	7.96	5.98	4.80	4.06	3.58	3.14	2.79	2.51
RL 30	30.90	23.40	14.20	9.95	7.47	6.00	5.07	4.48	3.92	3.49	3.14
RL 40	37.20	28.30	17.50	12.60	9.70	8.00	6.70	5.80	5.20	4.60	4.20
RL 45	41.90	31.80	19.70	14.10	10.90	9.00	7.50	6.50	5.80	5.20	4.70
RL 55	51.20	38.90	24.10	17.30	13.30	11.00	9.20	8.00	7.10	6.30	5.80
RL 65	60.50	46.00	28.50	20.50	15.70	13.00	10.90	9.50	8.40	7.50	6.80
RL 80	74.80	59.20	37.60	26.00	19.70	16.00	13.40	11.60	10.10	9.10	8.20
RL 100	93.50	74.00	47.00	32.50	24.60	20.00	16.80	14.50	12.70	11.30	10.20
RL 120	112.20	88.80	56.40	39.00	29.60	24.00	20.20	17.40	15.20	13.60	12.20
RL 140	130.90	103.60	65.80	45.50	34.60	28.00	23.50	20.30	17.70	15.90	14.30
RL 150	132.95	105.80	69.25	48.90	37.10	30.00	25.25	21.80	19.05	17.05	15.35
RL 160	135.00	108.00	72.70	52.30	39.60	32.00	27.00	23.30	20.40	18.20	16.40
RL 185	135.40	108.70	77.70	60.30	46.00	37.00	30.80	26.80	23.50	20.80	18.80
RL 200	146.30	117.50	84.00	65.10	49.70	40.00	33.30	29.00	25.40	22.50	20.30
RL 230	168.30	135.10	96.60	74.90	57.20	46.00	38.30	33.40	29.20	25.90	23.40
RL 270	197.60	158.60	113.40	87.90	67.10	54.00	45.00	39.20	34.30	30.40	27.40
RL 300	219.50	176.10	126.00	97.70	74.50	60.00	50.20	43.20	38.00	33.80	30.50
RL 340	260.00	217.00	152.00	106.00	83.00	68.00	57.00	49.20	43.30	38.70	35.10
RL 370	283.00	236.00	165.00	115.00	90.50	74.00	62.00	53.50	47.10	42.10	38.20
RL 400	306.00	255.00	179.00	124.00	98.00	80.00	67.10	57.90	50.90	45.50	41.30
RL 435	333.00	278.00	194.00	135.00	106.00	87.00	72.90	62.90	55.30	49.50	44.90
RL 470	360.00	300.00	210.00	146.00	115.00	94.00	78.80	68.00	59.80	53.50	48.50
RL 520	398.00	331.00	232.00	161.00	127.00	104.00	87.00	75.00	66.00	59.00	54.00
RL 560	429.00	356.00	250.00	173.00	137.00	112.00	94.00	81.00	71.00	64.00	58.00
RL 625	478.00	398.00	279.00	194.00	153.00	125.00	105.00	90.00	79.00	71.00	65.00
RL 650	498.00	414.00	290.00	201.00	159.00	130.00	109.00	94.00	83.00	74.00	68.00
RL 740	566.00	471.00	330.00	229.00	181.00	148.00	124.00	107.00	94.00	84.00	77.00
RL 840	643.00	535.00	375.00	260.00	205.00	168.00	141.00	121.00	107.00	95.00	87.00
RL 1000	765.00	637.00	447.00	310.00	245.00	200.00	167.00	144.00	127.00	114.00	103.00
RL 1250	956.00	796.00	559.00	388.00	306.00	250.00	209.00	180.00	159.00	143.00	129.00
RL 1500	1148.00	956.00	671.00	465.00	368.00	300.00	251.00	216.00	191.00	171.00	155.00



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