

1.75V per cell - Constant Current (Amps) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	119.5	84.4	65.1	51.6	38.9	22.4	10.6	6.9	4.67	3.96
LP12-45	141.5	100	77.1	61.2	46	26.5	12.5	8.17	5.53	4.68
LP12-55	173	122.2	94.3	74.7	56.3	32.4	15.3	9.98	6.75	5.73
LP12-65	194.4	137.3	105.9	84	63.2	36.4	17.2	11.2	7.59	6.43
LP12-75	235.9	166.7	128.6	101.9	76.7	44.2	20.9	13.6	9.21	7.81
LP12-80	251.6	177.8	137.2	108.7	81.9	47.1	22.3	14.5	9.82	8.33
LP12-90	283.1	200	154.3	122.3	92.1	53	25.1	16.3	11.1	9.37
LP12-100	314.5	222.2	171.4	135.9	102.3	58.9	27.9	18.1	12.3	10.4
LP12-120	377.4	266.7	205.7	163.1	122.8	70.7	33.5	21.8	14.7	12.5
LP12-135	424.6	300	231.4	183.5	138.1	79.5	37.6	24.5	16.6	14.1
LP12-150	471.8	333.3	257.2	203.8	153.5	88.4	41.8	27.2	18.4	15.6
LP12-180	566.2	400	308.6	244.6	184.2	106	50.2	32.67	22.1	18.74
LP12-200	/	444.4	342.9	271.8	204.6	117.8	55.8	36.3	24.6	20.8
LP12-250	/	/	428.6	339.7	255.8	147.3	69.7	45.4	30.7	26

1.70V per cell - Constant Current (Amps) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	131.8	91.7	69.7	55	41	23.2	10.9	7.13	4.71	4
LP12-45	156.1	108.6	82.5	65.1	48.6	27.5	12.9	8.44	5.58	4.73
LP12-55	190.8	132.7	100.8	79.6	59.4	33.6	15.8	10.3	6.82	5.79
LP12-65	214.4	149.1	113.3	89.5	66.8	37.7	17.8	11.6	7.66	6.5
LP12-75	260.2	180.9	137.5	108.6	81	45.8	21.6	14.1	9.3	7.89
LP12-80	277.5	193	146.7	115.8	86.4	48.8	23	15	9.92	8.42
LP12-90	312.2	217.1	165	130.3	97.2	54.9	25.9	16.9	11.2	9.47
LP12-100	346.9	241.3	183.4	144.8	108	61	28.7	18.7	12.4	10.5
LP12-120	416.3	289.5	220	173.7	129.6	73.2	34.5	22.5	14.9	12.6
LP12-135	468.3	325.7	247.5	195.4	145.8	82.4	38.8	25.3	16.7	14.2
LP12-150	520.4	361.9	275	217.1	162	91.5	43.1	28.1	18.6	15.8
LP12-180	624.5	434.3	330	260.6	194.4	109.8	51.7	33.75	22.32	18.94
LP12-200	/	/	366.7	289.5	216	122	57.5	37.5	24.8	21
LP12-250	/	/	458.4	361.9	270.1	152.5	71.9	46.9	31	26.3



LP SERIES

GENERAL PURPOSE

LP Series battery incorporate advanced VRLA technology designed for general purpose with 12 years designlife at 25℃; 14 years design life at 20℃ ambient temperature.

Product Description

Construction	
Positive Plate	Lead-calcium grids minimize corrosion & prolongs life
Negative Pate	Balanced lead-calcium grids optimize recombination efficiency
AGM Separator	Mechanically strong, low electrical resistance, micro porous glass fiber which completely absorbs the electrolyte into its structure
Terminal Post	Lead casting terminal or threaded copper insert alternative (some models), the copper one provides maximum conductivity.
Venting Valve	EPDM Rubber 10~49KPa release pressure. Resealing at 3~15KPa.
Container / Cover / Lid	ABS (UL-94 HB, UL-94 V0 optional)

Operation temperature range	
Nominal	20℃~25℃ (68~77°F)
Discharge	-15℃ ~ +50℃ (5~122°F)
Charge	0℃ ~ 40℃(32~104°F)
Storage	-15℃ ~ +40℃ (5~104°F)

Performance	
Recommended Maximum Charging Current Limit	Less than 0.3C
Float Charging Voltage	13.5V~13.8V at 25℃, Temp. Coefficient -20mV/℃
Maximum AC Ripple (Charger)	±0.02V/cell
Self-Discharge	Low self-discharge rate less than 3% / month @20℃
Equalize charge & cycle service life voltage	13.8~14.4V for equalize charge and 14.4~15.0V for cycle charge voltage @25℃

Note: Design and/or specifications subject to change without notice. If questions arise, contact your local Leoch sales representative for clarification.

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Application

- All purpose
- Uninterruptible Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Emergency light
- Railway signal
- Aircraft signal
- Alarm and security system
- Electronic apparatus and equipment
- Communication power supply
- DC power supply
- Auto control system
- Telecommunication
- Network Communication

LP Series Features

- Valve Regulated Lead Acid (VRLA) Battery
- Absorbent Glass Mat (AGM) Separators technology for high efficiency, gas absorption of up to 98%
- Using oxygen recombination technology: maintenance-free (no topping up)
- PbCaSn alloy for plate grids: less gassing, less self-discharging
- High quality AGM separator: extend cycle life and prevent micro short circuit
- ABS material: increase the strength of battery container. (Flame-retardant ABS is optional)
- High purity raw material: ensure low self-discharge rate
- No restrictions for rail, road, sea & air transport -Complies with IATA/ICAO Special Provisions A67
- Vent Valve - allows the release of excess gases & prevents case rupture
- UL Certificate
- Design according with IEC 60896-21/22:2004, JIS C 8704-2, GB/T 19638.2, etc.

ETL SEMKO

Intertek

UL

CE

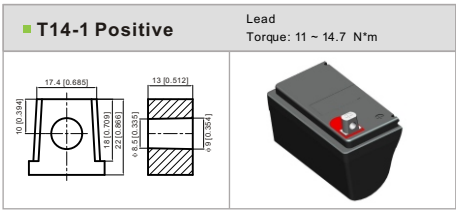
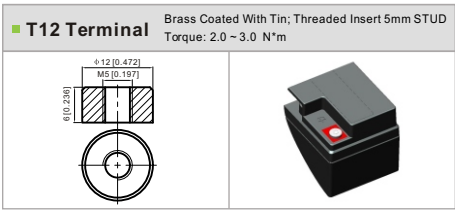
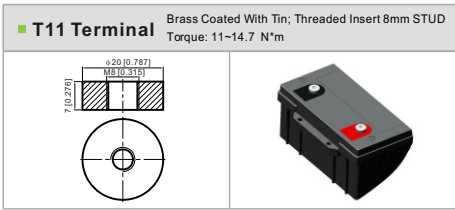
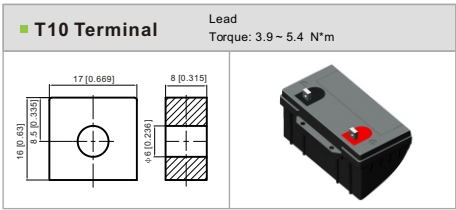
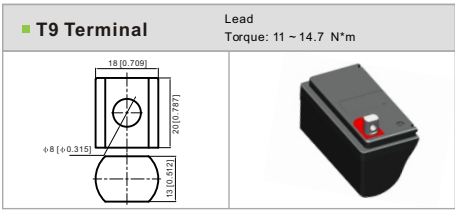
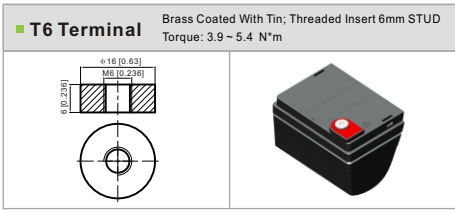
EMC tested

TS16949

ISO14001

ISO9001

Dimensions&Terminal Options



Specifications

Model	Nominal Voltage (V)	Rated Capacity(Ah)	Approx Dimension (mm)				Approx Weight (kg)	Internal Resistance (ohm)	Terminal Type
		20HR 1.80V/cell	L	W	H	TH			
LP12-38	12	39.5	197	165	170	170	12.2	10.0	T6/T12
LP12-45	12	46.8	197	165	170	170	14.2	9.0	T6/T12
LP12-55	12	57.2	228	138	205	226	16.5	7.5	T6/T9/T14
LP12-65	12	65	348	167	178	178	19.2	7.3	T6
LP12-75	12	78	259	168	208	230	22.3	6.6	T6/T9
LP12-80	12	83.2	259	168	208	214	24	6.0	T6
LP12-90	12	93.6	330	173	212	220	28	5.0	T11
LP12-100	12	104	330	173	212	220	30.4	4.9	T11
LP12-120	12	124.8	410	177	225	225	35	4.0	T11
LP12-135	12	140.4	344	171	274	280	41.2	4.0	T11
LP12-150	12	156	485	170	240	240	43.5	3.5	T11
LP12-180	12	187.2	530	209	214	220	52.8	3.0	T11
LP12-200	12	208	522	240	218	224	61	2.7	T11
LP12-250	12	260	522	268	220	226	73	2.5	T11

Discharge Performance

■ Constant Power Discharge

1.85V per cell - Constant Power (Watts) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	118.9	94.5	81.1	68.6	55.1	34.6	17.6	11.6	8.29	7.1
LP12-45	140.8	111.9	96.1	81.2	65.2	40.9	20.8	13.8	9.82	8.41
LP12-55	172.1	136.7	117.4	99.2	79.7	50	25.5	16.9	12	10.3
LP12-65	193.4	153.6	132	111.5	89.6	56.2	28.6	18.9	13.5	11.6
LP12-75	234.7	186.4	160.1	135.3	108.7	68.2	34.7	23	16.4	14
LP12-80	250.3	198.8	170.8	144.3	116	72.7	37	24.5	17.4	14.9
LP12-90	281.6	223.7	192.2	162.4	130.5	81.8	41.6	27.6	19.6	16.8
LP12-100	312.9	248.6	213.5	180.4	145	90.9	46.3	30.6	21.8	18.7
LP12-120	375.5	298.3	256.2	216.5	174	109.1	55.5	36.8	26.2	22.4
LP12-135	422.5	335.6	288.3	243.6	195.7	122.8	62.5	41.4	29.5	25.2
LP12-150	469.4	372.8	320.3	270.6	217.5	136.4	69.4	46	32.7	28
LP12-180	563.3	447.4	384.3	324.7	261	163.7	83.3	55.2	39.27	33.63
LP12-200	625.9	497.1	427.1	360.8	290	181.9	92.6	61.3	43.6	37.4
LP12-250	782.3	621.4	533.8	451	362.5	227.3	115.7	76.6	54.5	46.7

1.80V per cell - Constant Power (Watts) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	157.9	119.3	96.7	79.9	64	38.5	18.8	12.4	8.77	7.51
LP12-45	187	141.2	114.5	94.6	75.8	45.6	22.3	14.7	10.4	8.89
LP12-55	228.6	172.6	140	115.6	92.7	55.7	27.2	18	12.7	10.9
LP12-65	256.8	194	157.3	129.9	104.1	62.6	30.6	20.2	14.3	12.2
LP12-75	311.7	235.4	190.9	157.6	126.3	76	37.1	24.6	17.3	14.8
LP12-80	332.5	251.1	203.6	168.1	134.8	81.1	39.6	26.2	18.5	15.8
LP12-90	374	282.5	229.1	189.1	151.6	91.2	44.6	29.5	20.8	17.8
LP12-100	415.6	313.9	254.5	210.1	168.5	101.3	49.5	32.8	23.1	19.8
LP12-120	498.7	376.6	305.4	252.2	202.2	121.6	59.4	39.3	27.7	23.7
LP12-135	561	423.7	343.6	283.7	227.4	136.8	66.9	44.2	31.1	26.7
LP12-150	623.4	470.8	381.8	315.2	252.7	152	74.3	49.1	34.6	29.6
LP12-180	748	564.9	458.1	378.2	303.2	182.4	89.1	59	41.53	35.57
LP12-200	831.2	627.7	509	420.3	336.9	202.6	99	65.5	46.1	39.5
LP12-250	/	784.6	636.3	525.3	421.2	253.3	123.8	81.9	57.7	49.4

1.75V per cell - Constant Power (Watts) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	174.3	128.9	104.3	85.1	65.9	40.1	19.1	12.7	8.9	7.57
LP12-45	206.4	152.7	123.6	100.7	78.1	47.5	22.6	15.1	10.5	8.97
LP12-55	252.2	186.6	151	123.1	95.4	58	27.6	18.4	12.9	11
LP12-65	283.4	209.7	169.7	138.4	107.2	65.2	31	20.7	14.5	12.3
LP12-75	343.9	254.5	205.9	167.9	130.1	79.1	37.7	25.1	17.6	14.9
LP12-80	366.9	271.5	219.7	179.1	138.8	84.4	40.2	26.8	18.7	15.9
LP12-90	412.7	305.4	247.1	201.5	156.1	95	45.2	30.2	21.1	17.9
LP12-100	458.6	339.3	274.6	223.9	173.5	105.5	50.2	33.5	23.4	19.9
LP12-120	550.3	407.2	329.5	268.7	208.1	126.6	60.3	40.2	28.1	23.9
LP12-135	619.1	458.1	370.7	302.2	234.2	142.4	67.8	45.2	31.6	26.9
LP12-150	687.9	509	411.9	335.8	260.2	158.3	75.4	50.3	35.1	29.9
LP12-180	825.5	610.8	494.3	403	312.2	189.9	90.4	60.3	42.14	35.88
LP12-200	/	678.7	549.2	447.8	346.9	211	100.5	67	46.8	39.9
LP12-250	/	848.3	686.5	559.7	433.6	263.8	125.6	83.8	58.5	49.8

1.65V per cell - Constant Power (Watts) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	202.8	146.9	115.9	93.6	71.4	42.3	20.3	13.3	9.13	7.79
LP12-45	240.2	173.9	137.3	110.8	84.5	50.1	24.1	15.8	10.8	9.22
LP12-55	293.6	212.6	167.8	135.4	103.3	61.2	29.4	19.3	13.2	11.3
LP12-65	329.9	238.9	188.5	152.2	116.1	68.8	33.1	21.7	14.9	12.7
LP12-75	400.3	289.9	228.8	184.7	140.9	83.5	40.1	26.3	18	15.4
LP12-80	427	309.2	244	197	150.3	89.1	42.8	28.1	19.2	16.4
LP12-90	480.4	347.9	274.5	221.6	169.1	100.2	48.1	31.6	21.6	18.4
LP12-100	533.7	386.5	305	246.2	187.8	111.3	53.5	35.1	24	20.5
LP12-120	640.5	463.8	366	295.5	225.4	133.6	64.2	42.1	28.8	24.6
LP12-135	720.6	521.8	411.8	332.4	253.6	150.3	72.2	47.4	32.4	27.7
LP12-150	800.6	579.8	457.5	369.3	281.8	167	80.2	52.7	36.1	30.7
LP12-180	960.7	695.8	549	443.2	338.1	200.4	96.3	63.2	43.26	36.9
LP12-200	/	773.1	610.1	492.5	375.7	222.7	107	70.2	48.1	41
LP12-250	/	/	762.6	615.6	469.6	278.3	133.7	87.8	60.1	51.2

■ Constant Current Discharge

1.85V per cell - Constant Current (Amps) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	65	51.1	43.5	36.4	28.9	17.9	9.02	5.94	4.2	3.59
LP12-45	77	60.6	51.5	43.1	34.2	21.2	10.7	7.03	4.97	4.25
LP12-55	94.1	74	62.9	52.6	41.8	25.9	13.1	8.6	6.08	5.19
LP12-65	105.8	83.2	70.7	59.1	47	29.1	14.7	9.66	6.83	5.83
LP12-75	128.4	100.9	85.8	71.8	57.1	35.4	17.8	11.7	8.29	7.08
LP12-80	136.9	107.6	91.5	76.6	60.9	37.7	19	12.5	8.84	7.55
LP12-90	154	121.1	103	86.1	68.5	42.4	21.4	14.1	9.95	8.5
LP12-100	171.2	134.6	114.4	95.7	76.1	47.1	23.7	15.6	11	9.44
LP12-120	205.4	161.5	137.3	114.9	91.3	56.6	28.5	18.8	13.3	11.3
LP12-135	231.1	181.7	154.5	129.2	102.7	63.6	32	21.1	14.9	12.7
LP12-150	256.7	201.8	171.6	143.6	114.1	70.7	35.6	23.5	16.6	14.2
LP12-180	308.1	242.2	206	172.3	136.9	84.9	42.7	28.13	19.89	16.99
LP12-200	342.3	269.1	228.9	191.4	152.1	94.3	47.5	31.3	22.1	18.9
LP12-250	427.9	336.4	286.1	239.3	190.2	117.9	59.4	39.1	27.6	23.6

1.75V per cell - Constant Current (Amps) Discharge Characteristics @ 25℃										
Model	5min	10min	15min	20min	30min	1h	3h	5h	8h	10h
LP12-38	98.4	71.8	57.4	46.2	35.4	21	9.89	6.54	4.53	3.84
LP12-45	116.6	85	68	54.8	41.9	24.9	11.7	7.74	5.36	4.55
LP12-55	142.5	103.9	83.1	66.9	51.3	30.4	14.3	9.46	6.56	5.56
LP12-65	160.1	116.8	93.3	75.2	57.6	34.1	16.1	10.6	7.37	6.24
LP12-75	194.3	141.7	113.3	91.3	69.9	41.4	19.5	12.9	8.94	7.58
LP12-80	207.2	151.1	120.8	97.4	74.6	44.2	20.8	13.8	9.54	8.08
LP12-90	233.1	170	135.9	109.5	83.9	49.7	23.4	15.5	10.7	9.09
LP12-100	259	188.9	151	121.7	93.2	55.3	26	17.2	11.9	10.1
LP12-120	310.8	226.7	181.2	146.1	111.8	66.3	31.2	20.6	14.3	12.1
LP12-135	349.7	255	203.9	164.3	125.8	74.6	35.1	23.2	16.1	13.6
LP12-150	388.5	283.4	226.5	182.6	139.8	82.9	39	25.8	17.9	15.1
LP12-180	466.3	340.1	271.8	219.1	167.7	99.5	46.8	30.96	21.46	18.18
LP12-200	/	377.8	302	243.4	186.4	110.5	52	34.4	23.8	20.2
LP12-250	/	472.3	377.6	304.3	233	138.1	65.1	43	29.8	25.3