



KL...P / KM...P / KH...P

## STANDARD RANGE CATALOG

### INDUSTRIAL Ni-Cd BATTERIES



ADS cell design is based on a well proven pocket plate technology, which grants battery reliability and long service life.

#### FLIP-TOP Ventilation Cap

#### Safety Terminal

Leak protection & minimum carbonate formation.

#### Electrolyte Level Sticker

Shows the level of the electrolyte.

#### Translucent PP Cell Case

Easy to control the level of electrolyte.

#### Electrode Frame

Consisting of electrode edge and side bars. Seals the plates and works as a current collector.

#### Plastic Grid Separator

Insulates the plates and allows free electrolyte circulation.

#### Positive Pockets

Formed from nickel coated perforated steel stripe containing the Nickel based active material.

#### Negative Pockets

Formed from perforated steel stripe containing the Cadmium based active material.



## Advantages of ADS Ni-Cd batteries:

- Very good high power rating
- Very good cycling capability
- Reduced maintenance costs
- Exceptional life cycle costs
- Low internal resistance
- No risk of sudden death or terminal runaway effect
- No electrolyte stratification
- No electrode plate corrosion or passivation
- Reduced loss of capacity at deep temperature
- No ice formation at temperatures below 0 °C
- Exceptional lifetime at high temperatures
- Insensitive against deep discharge
- Operational temperature range between – 40 °C to + 50 °C
- Long shelf life of several years in a discharged state
- Robust construction – insensitive against faulty maintenance
- Large electrolyte reserve - reduced maintenance costs

KL cell type was especially designed by ADS for low rates of discharge over long periods. It is recommended when the discharge current is relatively low compared with the total stored energy. The recommended discharge time for this type of cells is from 1 hour to 100 hours.

Type	Nominal capacity, A*h	Dimensions, mm*				Pole		Weight, kg*	
		l	w	h	h <sup>1</sup>	Size	Type	Without electrolyte	Total weight
KL	11 P	46	85	167	193	2 x M10	Nut	0,8	1,3
KL	18 P	59	113	213	235	2 x M10		0,9	1,4
KL	24 P	59	113	213	235	2 x M10		1,1	1,5
KL	30 P	59	113	213	235	2 x M10		1,3	1,6
KL	40 P	59	113	213	235	2 x M10		1,8	2,7
KL	45 P	59	113	213	235	2 x M10		1,9	2,8
KL	55 P	59	113	213	235	2 x M10		2,0	2,8
KL	65 P	60	127	253	275	2 x M10		2,3	2,9
KL	80 P	74	136	339	357	2 x M10		3,3	5,3
KL	100 P	74	136	339	357	2 x M10		3,7	5,6
KL	120 P	74	136	339	357	2 x M10		3,9	5,7
KL	140 P	112	134	291	327	2 x M16		4,5	6,1
KL	150 P	112	134	291	327	2 x M16		4,9	7,1
KL	160 P	112	134	291	327	2 x M16		5,7	9,8
KL	185 P	129	167	364	400	2 x M20		6,3	9,9
KL	200 P	129	167	364	400	2 x M20		6,7	10,5
KL	230 P	129	167	364	400	2 x M20		7,5	10,8
KL	270 P	129	167	364	400	2 x M20		8,4	11,3
KL	300 P	129	167	364	400	2 x M20		9,1	11,8
KL	340 P	129	167	364	400	2 x M20		11,5	16,5
KL	370 P	129	167	364	400	2 x M20		12,3	17,0
KL	400 P	171	174	337	372	4 x M20		13,0	17,8
KL	435 P	171	174	337	372	4 x M20		13,8	18,3
KL	470 P	171	174	337	372	4 x M20		14,6	18,8
KL	520 P	155	169	491	527	4 x M16		18,3	26,7
KL	560 P	155	169	491	527	4 x M16		18,8	27,2
KL	625 P	155	169	491	527	4 x M16		20,4	28,3
KL	650 P	176	368	382	421	6 x M10	Screw	23,7	37,0
KL	740 P	176	368	382	421	6 x M10		25,9	38,0
KL	800 P	176	368	382	421	6 x M10		26,5	38,7
KL	840 P	176	368	382	421	6 x M10		28,0	40,6
KL	910 P	176	368	382	421	6 x M10		30,5	43,9
KL	1000 P	176	448	382	421	8 x M10		39,3	52,5
KL	1040 P	176	448	382	421	8 x M10		40,5	55,2
KL	1120 P	176	448	382	421	8 x M10		41,5	56,2
KL	1250 P	176	558	382	421	10 x M10		42,5	62,0
KL	1350 P	176	558	382	421	10 x M10		44,9	64,9
KL	1400 P	176	558	382	421	10 x M10		46,5	67,3
KL	1500 P	176	558	382	421	10 x M10		48,9	68,4
KL	1620 P	176	558	382	421	10 x M10		52,2	70,8
KL	1700 P	176	558	382	421	10 x M10		55,5	75,3

\*All dimensions and weights stated are subject to usual manufacturing tolerance. The right is reserved to make any alterations without prior notice.

KM cell type is recommended when different types of discharge are used (low and middle currents).  
Recommended discharge time is 30 minutes to 3 hours.

Type	Nominal capacity, A*h	Dimensions, mm*				Pole		Weight, kg*	
		l	w	h	h <sup>1</sup>	Size	Type	Without electrolyte	Total weight
KM	11 P	46	85	167	193	2 x M10	Nut	0,7	1,0
KM	18 P	59	113	213	235	2 x M10		1,0	1,5
KM	24 P	59	113	213	235	2 x M10		1,2	1,6
KM	30 P	59	113	213	235	2 x M10		1,4	1,7
KM	40 P	59	113	213	235	2 x M10		1,9	2,8
KM	48 P	60	127	253	275	2 x M10		2,1	2,8
KM	55 P	60	127	253	275	2 x M10		2,3	3,0
KM	65 P	60	127	253	275	2 x M10		3,6	4,9
KM	75 P	74	136	339	357	2 x M10		3,8	5,0
KM	90 P	74	136	339	357	2 x M14		4,4	6,2
KM	110 P	74	136	339	357	2 x M14		4,9	6,5
KM	125 P	74	136	339	357	2 x M14		5,6	7,7
KM	140 P	112	134	291	327	2 x M16		6,0	7,8
KM	160 P	112	134	291	327	2 x M16		6,9	10,6
KM	185 P	129	167	364	400	2 x M20		7,5	10,9
KM	205 P	129	167	364	400	2 x M20		8,3	11,2
KM	225 P	129	167	364	400	2 x M20		8,8	11,6
KM	250 P	129	167	364	400	2 x M20		9,6	12,2
KM	270 P	129	167	364	400	2 x M20		11,2	16,3
KM	300 P	129	167	364	400	2 x M20		11,5	16,5
KM	320 P	129	167	364	400	2 x M20		12,2	17,0
KM	340 P	129	167	364	400	2 x M20		13,0	17,5
KM	355 P	129	167	364	400	2 x M20		13,7	18,0
KM	400 P	171	174	337	372	4 x M20		15,1	18,9
KM	420 P	171	174	337	372	4 x M20		18,7	25,4
KM	450 P	171	174	337	372	4 x M20		20,0	27,3
KM	470 P	155	169	491	527	4 x M20		20,9	28,5
KM	500 P	155	169	491	527	4 x M20		21,2	28,3
KM	520 P	155	169	491	527	4 x M20		22,4	29,4
KM	550 P	155	169	491	527	4 x M20		22,8	30,0
KM	570 P	155	169	491	527	4 x M20		23,2	30,4
KM	600 P	176	368	382	421	6 x M10	Screw	27,0	40,7
KM	630 P	176	368	382	421	6 x M10		28,4	42,7
KM	675 P	176	368	382	421	6 x M10		30,8	43,7
KM	705 P	176	368	382	421	6 x M10		32,5	45,6
KM	750 P	176	368	382	421	6 x M10		34,3	46,9
KM	850 P	176	448	382	421	8 x M10		36,2	48,8
KM	950 P	176	448	382	421	8 x M10		40,7	53,2
KM	1000 P	176	448	382	421	8 x M10		42,8	56,0
KM	1050 P	176	448	382	421	8 x M10		44,9	58,8
KM	1150 P	176	558	382	421	10 x M10		48,2	63,4
KM	1250 P	176	558	382	421	10 x M10		52,4	68,9
KM	1390 P	176	558	382	421	10 x M10		58,3	76,6

\*All dimensions and weights stated are subject to usual manufacturing tolerance. The right is reserved to make any alterations without prior notice.

KH cell type is used for high current discharging over short discharge periods. The recommended discharge time for this cell range is 1 s to 30 min. Although it is a perfect product for starting engines, it also could be used in short period back up power solutions.

Type	Nominal capacity, A*h	Dimensions, mm*				Pole		Weight, kg*	
		l	w	h	h <sup>1</sup>	Size	Type	Without electrolyte	Total weight
KH	10 P	46	85	167	193	2 x M10	Nut	1,1	1,6
KH	20 P	59	113	213	235	2 x M10		1,6	1,9
KH	30 P	59	113	213	235	2 x M10		2,7	4,1
KH	40 P	60	127	253	275	2 x M14		3,1	4,4
KH	50 P	60	127	253	275	2 x M14		3,6	4,6
KH	65 P	74	136	339	357	2 x M14		4,5	6,1
KH	80 P	74	136	339	357	2 x M14		5,4	6,6
KH	100 P	112	134	291	327	2 x M16		6,5	8,8
KH	125 P	112	134	291	327	2 x M16		7,8	9,7
KH	150 P	118	167	327	362	4 x M20		8,9	11,9
KH	185 P	171	174	337	372	4 x M20		10,6	15,6
KH	200 P	171	174	337	372	4 x M20		11,4	16,2
KH	235 P	171	174	337	372	4 x M20		12,6	17,1
KH	250 P	171	174	337	372	4 x M20		13,0	17,4
KH	280 P	176	246	330	360	4 x M10	Screw	17,0	23,7
KH	300 P	176	246	330	360	4 x M10		17,7	24,2
KH	320 P	176	246	330	360	4 x M10		18,5	24,6
KH	360 P	176	368	330	360	6 x M10		22,7	33,9
KH	390 P	176	368	330	360	6 x M10		23,8	34,7
KH	420 P	176	368	330	360	6 x M10		24,8	35,4
KH	450 P	176	368	330	360	6 x M10		26,0	36,3
KH	480 P	176	368	330	360	6 x M10		27,1	37,0
KH	520 P	176	448	330	360	8 x M10		31,5	44,7
KH	560 P	176	448	330	360	8 x M10		33,0	45,9
KH	600 P	176	448	330	360	8 x M10		34,5	47,0
KH	640 P	176	448	330	360	8 x M10		36,0	48,1
KH	700 P	176	558	330	360	10 x M10		41,1	57,2
KH	750 P	176	558	330	360	10 x M10		43,0	58,6
KH	800 P	176	558	330	360	10 x M10		44,9	60,0

\*All dimensions and weights stated are subject to usual manufacturing tolerance. The right is reserved to make any alterations without prior notice.



### Configuration forms

ADS Ni-Cd cells can be assembled into many different configurations, for example:

- Placing on battery racks and cabinets
- Mounting as compact blocks
- Assembling in plastic/ stainless steel crates or battery troughs

### Fields of application

UPS, railway, power and substations, renewable energy stations, ship equipment, telecommunications

### Discharging conditions

The discharge performances as well as the nominal capacities C5 given in this brochure are only valid for fully charged cells in accordance with IEC 60623 und EN 60623, point 4.1.

#### Charging conditions for KL type

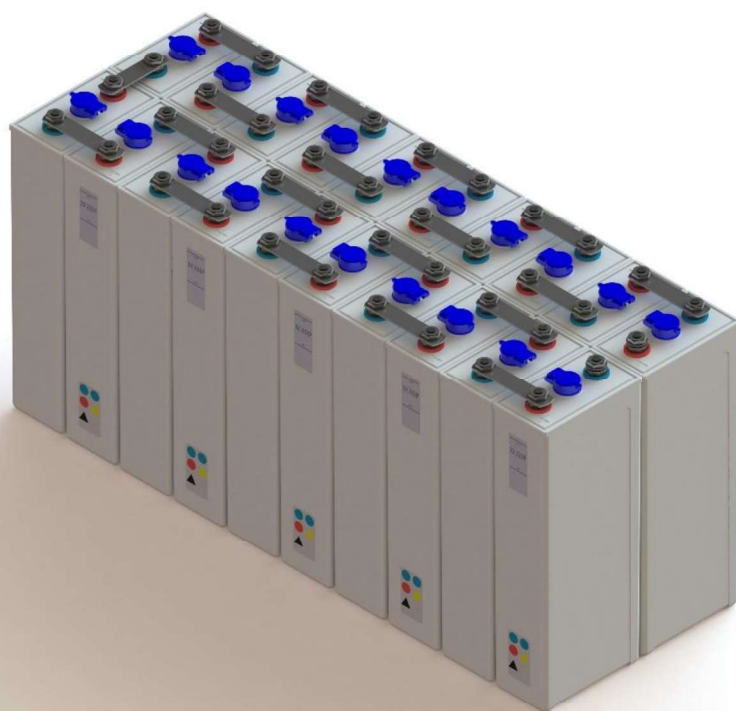
Constant voltage	Constant current at 25 °C
Stand by	Standard charge:
Float: 1.40 – 1.42 V/cell	0.2 It A for 7 – 8 h
Boost charge:	Boost charge:
1.55 – 1.70 V/cell	0.3 It A for 2.5 h
Buffer operation	followed by
Average value:	0.2 It A for 2.5 h
1.55 – 1.70 V/cell	Trickle charge:
Current limitation: 0.3 It A	0.001 – 0.002 A/Ah

#### Charging conditions for KM type

Constant voltage	Constant current at 25 °C
Stand by	Standard charge:
Float: 1.40 – 1.42 V/cell	0.2 It A for 7 – 8 h
Boost charge:	Boost charge:
1.55 – 1.70 V/cell	0.4 It A for 2.5 h
Buffer operation	followed by
Average value:	0.2 It A for 2.5 h
1.55 – 1.70 V/cell	Trickle charge:
Current limitation: 0.4 It A	0.001 – 0.002 A/Ah

#### Charging conditions for KH type

Constant voltage	Constant current at 25 °C
Stand by	Standard charge:
Float: 1.36 – 1.42 V/cell	0.2 It A for 7 – 8 h
Boost charge:	Boost charge:
1.55 – 1.65 V/cell	0.5 It A for 2.5 h
Buffer operation	followed by
Average value:	0.2 It A for 2.5 h
1.55 – 1.60 V/cell	Trickle charge:
Current limitation: 0.5 It A	0.001 – 0.002 A/Ah



### Important notice

The nominal capacity C5 is not the basis for the performance of the batteries. Performance depends on the battery construction or on the different battery ranges, respectively. Therefore, our discharge tables should be used to find out the appropriated cell type for a specific application. The nominal capacity C5 is based on the available ampere hours (Ah) at a discharge rate of 5 hours to a final discharge voltage of 1.00 V per cell at 20 °C ± 5 °C.