



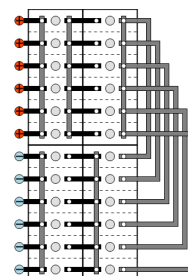
## LBE1660P - Cell data sheet

### Classification

|                          |           |
|--------------------------|-----------|
| Brand                    | Alcad     |
| Cell type                | LBE1660P  |
| Cell P/N                 | 310548781 |
| Capacity at 5 hours rate | 1.660 Ah  |
| IEC Designation          | KL1660P   |
| According to             | IEC 60623 |



Wiring principle



Crosswise

### Physical data

|                |        |                 |         |
|----------------|--------|-----------------|---------|
| Overall height | 410 mm |                 |         |
| Cell height    | 400 mm |                 |         |
| Width          | 195 mm | Weight per cell | 69,8 Kg |
| Length         | 523 mm |                 |         |

### Construction

|                    |                 |                           |       |
|--------------------|-----------------|---------------------------|-------|
| Container material | Polypropylene   | No. of terminals/polarity | 6     |
| Separator type     | Grid            | Terminal material         | Steel |
| Connection torque  | 30,0 +/- 3,0 Nm | Vent type                 |       |
| Terminal size      | M10 SW 16 mm    |                           |       |
|                    |                 | Handle                    | Yes   |

### Plates

|                |        |                |        |
|----------------|--------|----------------|--------|
| Positive       |        | Negative       |        |
| Type of plates | Pocket | Type of plates | Pocket |

### Electrolyte

|                              |             |                   |       |
|------------------------------|-------------|-------------------|-------|
| Electrolyte type: Renewal    | E13         | Max/Min           | 50 mm |
| Electrolyte type: Initial    | E22         | Vent oil quantity |       |
| Electrolyte per cell: Liquid | 17,8 liters |                   |       |

### Connection

|                                          |                    |                              |                    |
|------------------------------------------|--------------------|------------------------------|--------------------|
| Cable area of internal connection cables | 70 mm <sup>2</sup> | End-lug (and external cable) | 50 mm <sup>2</sup> |
|------------------------------------------|--------------------|------------------------------|--------------------|



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### Charging

|                      |             |                         |             |
|----------------------|-------------|-------------------------|-------------|
| Float voltage        | 1,42 V/Cell | High rate voltage (min) | 1,47 V/Cell |
| Single-level voltage | 1,43 V/Cell |                         |             |

### Resistance/Short circuit

|                     |           |                       |         |
|---------------------|-----------|-----------------------|---------|
| Internal resistance | 0,10 mOhm | Short circuit current | 13809 A |
|---------------------|-----------|-----------------------|---------|

### Performance data

#### Current discharge

After prolonged float charge of fully charged cells. Available amperes at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h | 8h  | 5h  | 3h  | 2h  | 1,5h | 1h    | 30m   | 20m   | 15m   | 10m   | 5m    | 1m    | 30s   | 5s    | 1s    |
|--------|-----|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1      | 171 | 211 | 332 | 531 | 709 | 853  | 1.093 | 1.410 | 1.581 | 1.698 | 1.825 | 2.093 | 2.324 | 2.490 | 2.988 | 3.211 |
| 1,05   | 170 | 211 | 328 | 515 | 642 | 733  | 915   | 1.193 | 1.318 | 1.367 | 1.518 | 1.733 | 1.869 | 2.043 | 2.454 | 2.663 |
| 1,1    | 166 | 204 | 313 | 433 | 544 | 627  | 739   | 929   | 1.003 | 1.100 | 1.211 | 1.272 | 1.523 | 1.660 | 2.021 | 2.216 |
| 1,14   | 162 | 191 | 275 | 375 | 450 | 499  | 575   | 735   | 787   | 817   | 919   | 1.068 | 1.241 | 1.357 | 1.689 | 1.869 |
| 1,16   | 152 | 175 | 238 | 322 | 384 | 416  | 472   | 618   | 688   | 743   | 814   | 974   | 1.132 | 1.238 | 1.540 | 1.705 |

#### Power discharge

Available power (W), after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h | 8h  | 5h  | 3h  | 2h  | 1,5h | 1h    | 30m   | 20m   | 15m   | 10m   | 5m    | 1m    | 30s   | 5s    | 1s    |
|--------|-----|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1      | 198 | 242 | 371 | 568 | 741 | 882  | 1.118 | 1.424 | 1.591 | 1.705 | 1.829 | 2.093 | 2.324 | 2.490 | 2.988 | 3.211 |
| 1,05   | 197 | 243 | 373 | 567 | 696 | 788  | 975   | 1.261 | 1.390 | 1.440 | 1.597 | 1.820 | 1.963 | 2.145 | 2.577 | 2.796 |
| 1,1    | 194 | 237 | 361 | 490 | 610 | 699  | 821   | 1.026 | 1.106 | 1.212 | 1.333 | 1.399 | 1.675 | 1.826 | 2.223 | 2.438 |
| 1,14   | 190 | 224 | 321 | 434 | 518 | 573  | 658   | 840   | 898   | 932   | 1.048 | 1.218 | 1.415 | 1.547 | 1.926 | 2.131 |
| 1,16   | 179 | 205 | 280 | 377 | 448 | 484  | 549   | 718   | 798   | 862   | 945   | 1.130 | 1.314 | 1.436 | 1.787 | 1.978 |



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### Kt Factor

#### Current discharge

After prolonged float charge of fully charged cells. Kt factor at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h  | 8h   | 5h   | 3h   | 2h   | 1,5h | 1h   | 30m  | 20m  | 15m  | 10m  | 5m   | 1m   | 30s  | 5s   | 1s   |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1      | 9,7  | 7,85 | 5,00 | 3,12 | 2,34 | 1,95 | 1,52 | 1,18 | 1,05 | 0,98 | 0,91 | 0,79 | 0,71 | 0,67 | 0,56 | 0,52 |
| 1,05   | 9,8  | 7,88 | 5,05 | 3,23 | 2,58 | 2,26 | 1,81 | 1,39 | 1,26 | 1,21 | 1,09 | 0,96 | 0,89 | 0,81 | 0,68 | 0,62 |
| 1,1    | 10,0 | 8,16 | 5,31 | 3,83 | 3,05 | 2,65 | 2,25 | 1,79 | 1,66 | 1,51 | 1,37 | 1,31 | 1,09 | 1,00 | 0,82 | 0,75 |
| 1,14   | 10,2 | 8,68 | 6,04 | 4,42 | 3,69 | 3,33 | 2,89 | 2,26 | 2,11 | 2,03 | 1,81 | 1,55 | 1,34 | 1,22 | 0,98 | 0,89 |
| 1,16   | 10,9 | 9,5  | 6,98 | 5,15 | 4,32 | 3,99 | 3,52 | 2,69 | 2,41 | 2,23 | 2,04 | 1,70 | 1,47 | 1,34 | 1,08 | 0,97 |

#### Power discharge

Kt factor power, after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h  | 8h   | 5h   | 3h   | 2h   | 1,5h | 1h   | 30m  | 20m  | 15m  | 10m  | 5m   | 1m   | 30s  | 5s   | 1s   |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1      | 8,38 | 6,87 | 4,47 | 2,92 | 2,24 | 1,88 | 1,49 | 1,17 | 1,04 | 0,97 | 0,91 | 0,79 | 0,71 | 0,67 | 0,56 | 0,52 |
| 1,05   | 8,41 | 6,83 | 4,45 | 2,93 | 2,38 | 2,11 | 1,70 | 1,32 | 1,19 | 1,15 | 1,04 | 0,91 | 0,85 | 0,77 | 0,64 | 0,59 |
| 1,1    | 8,55 | 7,01 | 4,60 | 3,39 | 2,72 | 2,37 | 2,02 | 1,62 | 1,50 | 1,37 | 1,24 | 1,19 | 0,99 | 0,91 | 0,75 | 0,68 |
| 1,14   | 8,71 | 7,41 | 5,17 | 3,82 | 3,20 | 2,90 | 2,52 | 1,98 | 1,85 | 1,78 | 1,58 | 1,36 | 1,17 | 1,07 | 0,86 | 0,78 |
| 1,16   | 9,27 | 8,09 | 5,94 | 4,41 | 3,71 | 3,43 | 3,03 | 2,31 | 2,08 | 1,93 | 1,76 | 1,47 | 1,26 | 1,16 | 0,93 | 0,84 |