



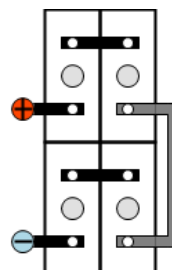
## LCE165P - Cell data sheet

### Classification

|                          |           |
|--------------------------|-----------|
| Brand                    | Alcad     |
| Cell type                | LCE165P   |
| Cell P/N                 | 311033951 |
| Capacity at 5 hours rate | 165 Ah    |
| IEC Designation          | KL165P    |
| According to IEC 60623   |           |



Wiring principle Normal



### Physical data

|                |        |                 |        |
|----------------|--------|-----------------|--------|
| Overall height | 357 mm |                 |        |
| Cell height    | 349 mm |                 |        |
| Width          | 192 mm | Weight per cell | 9,8 Kg |
| Length         | 93 mm  |                 |        |

### Construction

|                    |                 |                           |       |
|--------------------|-----------------|---------------------------|-------|
| Container material | Polypropylene   | No. of terminals/polarity | 1     |
| Separator type     | Grid            | Terminal material         | Steel |
| Connection torque  | 30,0 +/- 3,0 Nm | Vent type                 |       |
| Terminal size      | M10 SW 16 mm    |                           |       |
|                    |                 | Handle                    | No    |

### 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 | 3,2 liters |                   |       |

### Connection

|                                          |                    |                              |                    |
|------------------------------------------|--------------------|------------------------------|--------------------|
| Cable area of internal connection cables | 35 mm <sup>2</sup> | End-lug (and external cable) | 35 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 | 0,97 mOhm | Short circuit current | 1618 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      | 16,7 | 20,8 | 33,0 | 52,8 | 71,7 | 87,1 | 112  | 143  | 162  | 172  | 181  | 218  | 249 | 266 | 339 | 376 |
| 1,05   | 16,5 | 20,6 | 32,3 | 51,7 | 63,4 | 74,5 | 92,3 | 121  | 138  | 147  | 160  | 172  | 200 | 220 | 279 | 308 |
| 1,1    | 16,4 | 20,0 | 30,8 | 44,0 | 55,6 | 65,2 | 76,3 | 97,8 | 108  | 109  | 120  | 142  | 161 | 181 | 227 | 253 |
| 1,14   | 15,8 | 18,6 | 27,1 | 37,8 | 46,8 | 52,2 | 59,8 | 75,5 | 86,0 | 86,4 | 98,7 | 106  | 132 | 146 | 187 | 211 |
| 1,16   | 14,9 | 17,0 | 23,5 | 32,5 | 39,9 | 43,5 | 49,1 | 63,5 | 75,2 | 78,6 | 87,4 | 96,9 | 120 | 133 | 171 | 193 |

#### 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      | 19,3 | 23,8 | 36,9 | 56,5 | 75,0 | 90,0 | 115  | 145  | 163  | 172  | 182 | 218 | 249 | 266 | 339 | 376 |
| 1,05   | 19,2 | 23,8 | 36,7 | 56,9 | 68,6 | 80,0 | 98,4 | 128  | 145  | 155  | 168 | 181 | 210 | 231 | 293 | 323 |
| 1,1    | 19,1 | 23,3 | 35,5 | 49,8 | 62,3 | 72,8 | 84,7 | 108  | 119  | 120  | 133 | 156 | 178 | 199 | 249 | 278 |
| 1,14   | 18,6 | 21,8 | 31,6 | 43,8 | 53,8 | 60,0 | 68,6 | 86,3 | 98,2 | 98,5 | 113 | 121 | 150 | 167 | 213 | 241 |
| 1,16   | 17,5 | 20,0 | 27,6 | 38,0 | 46,6 | 50,7 | 57,1 | 73,8 | 87,3 | 91,2 | 101 | 112 | 140 | 155 | 198 | 223 |



## LCE165P - Cell data sheet

### 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      | 9,9  | 7,92 | 5,00 | 3,12 | 2,30 | 1,90 | 1,47 | 1,15 | 1,02 | 0,96 | 0,91 | 0,76 | 0,66 | 0,62 | 0,49 | 0,44 |
| 1,05   | 10,0 | 8,00 | 5,10 | 3,19 | 2,60 | 2,22 | 1,79 | 1,36 | 1,20 | 1,12 | 1,03 | 0,96 | 0,83 | 0,75 | 0,59 | 0,54 |
| 1,1    | 10,1 | 8,24 | 5,36 | 3,75 | 2,97 | 2,53 | 2,16 | 1,69 | 1,53 | 1,51 | 1,37 | 1,16 | 1,02 | 0,91 | 0,73 | 0,65 |
| 1,14   | 10,4 | 8,87 | 6,10 | 4,36 | 3,53 | 3,16 | 2,76 | 2,18 | 1,92 | 1,91 | 1,67 | 1,55 | 1,25 | 1,13 | 0,88 | 0,78 |
| 1,16   | 11,1 | 9,7  | 7,03 | 5,07 | 4,13 | 3,79 | 3,36 | 2,60 | 2,19 | 2,10 | 1,89 | 1,70 | 1,37 | 1,24 | 0,97 | 0,86 |

#### 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      | 8,54 | 6,93 | 4,47 | 2,92 | 2,20 | 1,83 | 1,44 | 1,14 | 1,02 | 0,96 | 0,91 | 0,76 | 0,66 | 0,62 | 0,49 | 0,44 |
| 1,05   | 8,59 | 6,94 | 4,49 | 2,90 | 2,40 | 2,06 | 1,68 | 1,29 | 1,14 | 1,07 | 0,98 | 0,91 | 0,79 | 0,71 | 0,56 | 0,51 |
| 1,1    | 8,63 | 7,09 | 4,64 | 3,31 | 2,65 | 2,27 | 1,95 | 1,53 | 1,39 | 1,37 | 1,24 | 1,06 | 0,93 | 0,83 | 0,66 | 0,59 |
| 1,14   | 8,88 | 7,57 | 5,22 | 3,77 | 3,06 | 2,75 | 2,41 | 1,91 | 1,68 | 1,67 | 1,47 | 1,36 | 1,10 | 0,99 | 0,77 | 0,69 |
| 1,16   | 9,45 | 8,27 | 5,98 | 4,34 | 3,54 | 3,26 | 2,89 | 2,24 | 1,89 | 1,81 | 1,63 | 1,47 | 1,18 | 1,07 | 0,83 | 0,74 |