



## MC60P - Cell data sheet

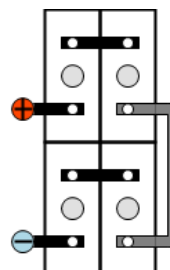
### Classification

|                          |           |
|--------------------------|-----------|
| Brand                    | Alcad     |
| Cell type                | MC60P     |
| Cell P/N                 | 311037851 |
| Capacity at 5 hours rate | 60 Ah     |
| IEC Designation          | KM60P     |
| According to IEC 60623   |           |



Wiring principle

Normal



### Physical data

|                |        |                 |        |
|----------------|--------|-----------------|--------|
| Overall height | 357 mm |                 |        |
| Cell height    | 349 mm |                 |        |
| Width          | 192 mm | Weight per cell | 6,3 Kg |
| Length         | 68 mm  |                 |        |

### Construction

|                    |                 |                           |       |
|--------------------|-----------------|---------------------------|-------|
| Container material | Polypropylene   | No. of terminals/polarity | 1     |
| Separator type     | Grid            | Terminal material         | Steel |
| Connection torque  | 20,0 +/- 2,0 Nm | Vent type                 |       |
| Terminal size      | M8 SW 13 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 | 2,6 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        | 1,4 V/Cell  | High rate voltage (min) | 1,45 V/Cell |
| Single-level voltage | 1,43 V/Cell |                         |             |

### Resistance/Short circuit

|                     |           |                       |        |
|---------------------|-----------|-----------------------|--------|
| Internal resistance | 1,30 mOhm | Short circuit current | 1021 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      | 6,09 | 7,56 | 12,0 | 19,7 | 28,7 | 35,6 | 50,4 | 68,7 | 79,9 | 86,9 | 99,3 | 118  | 162  | 183  | 223  | 238 |
| 1,05   | 6,05 | 7,50 | 11,9 | 19,4 | 26,9 | 34,4 | 45,3 | 58,4 | 68,9 | 74,9 | 83,6 | 97,9 | 139  | 157  | 190  | 203 |
| 1,1    | 5,94 | 7,38 | 11,7 | 18,1 | 25,1 | 30,4 | 37,0 | 46,6 | 57,0 | 59,8 | 68,2 | 82,8 | 117  | 132  | 157  | 181 |
| 1,14   | 5,80 | 7,20 | 11,3 | 17,0 | 21,6 | 24,6 | 28,4 | 34,9 | 39,7 | 43,2 | 49,8 | 62,4 | 88,0 | 98,7 | 115  | 119 |
| 1,16   | 5,64 | 6,92 | 10,4 | 15,7 | 18,2 | 19,5 | 23,6 | 29,8 | 33,9 | 35,6 | 39,9 | 49,8 | 73,8 | 83,2 | 94,4 | 101 |

#### 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      | 7,26 | 8,93 | 14,0 | 22,0 | 30,6 | 37,4 | 51,9 | 69,7 | 80,6 | 87,4 | 100  | 118  | 162  | 183  | 223 | 238 |
| 1,05   | 7,21 | 8,89 | 14,0 | 21,7 | 29,6 | 37,3 | 48,6 | 62,0 | 72,8 | 79,0 | 88,0 | 103  | 146  | 165  | 199 | 213 |
| 1,1    | 7,10 | 8,76 | 13,8 | 20,7 | 28,4 | 34,1 | 41,2 | 51,5 | 62,9 | 65,9 | 75,1 | 91,0 | 129  | 145  | 173 | 199 |
| 1,14   | 6,93 | 8,56 | 13,3 | 19,8 | 25,0 | 28,4 | 32,5 | 39,9 | 45,3 | 49,3 | 56,8 | 71,2 | 100  | 113  | 131 | 136 |
| 1,16   | 6,74 | 8,23 | 12,3 | 18,4 | 21,3 | 22,7 | 27,5 | 34,6 | 39,4 | 41,4 | 46,3 | 57,8 | 85,6 | 96,6 | 109 | 117 |



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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      | 9,8  | 7,94 | 5,00 | 3,05 | 2,09 | 1,68 | 1,19 | 0,87 | 0,75 | 0,69 | 0,60 | 0,51 | 0,37 | 0,33 | 0,27 | 0,25 |
| 1,05   | 9,9  | 8,00 | 5,04 | 3,10 | 2,23 | 1,74 | 1,32 | 1,03 | 0,87 | 0,80 | 0,72 | 0,61 | 0,43 | 0,38 | 0,32 | 0,30 |
| 1,1    | 10,1 | 8,12 | 5,12 | 3,32 | 2,39 | 1,97 | 1,62 | 1,29 | 1,05 | 1,00 | 0,88 | 0,72 | 0,51 | 0,45 | 0,38 | 0,33 |
| 1,14   | 10,3 | 8,33 | 5,32 | 3,53 | 2,77 | 2,44 | 2,12 | 1,72 | 1,51 | 1,39 | 1,21 | 0,96 | 0,68 | 0,61 | 0,52 | 0,50 |
| 1,16   | 10,6 | 8,67 | 5,78 | 3,82 | 3,30 | 3,08 | 2,54 | 2,01 | 1,77 | 1,68 | 1,50 | 1,20 | 0,81 | 0,72 | 0,64 | 0,60 |

#### 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      | 8,26 | 6,72 | 4,28 | 2,73 | 1,96 | 1,61 | 1,16 | 0,86 | 0,74 | 0,69 | 0,60 | 0,51 | 0,37 | 0,33 | 0,27 | 0,25 |
| 1,05   | 8,32 | 6,75 | 4,30 | 2,77 | 2,03 | 1,61 | 1,23 | 0,97 | 0,82 | 0,76 | 0,68 | 0,58 | 0,41 | 0,36 | 0,30 | 0,28 |
| 1,1    | 8,45 | 6,85 | 4,35 | 2,90 | 2,11 | 1,76 | 1,46 | 1,16 | 0,95 | 0,91 | 0,80 | 0,66 | 0,47 | 0,41 | 0,35 | 0,30 |
| 1,14   | 8,66 | 7,01 | 4,51 | 3,04 | 2,40 | 2,12 | 1,84 | 1,50 | 1,32 | 1,22 | 1,06 | 0,84 | 0,60 | 0,53 | 0,46 | 0,44 |
| 1,16   | 8,90 | 7,29 | 4,89 | 3,25 | 2,82 | 2,64 | 2,19 | 1,73 | 1,52 | 1,45 | 1,29 | 1,04 | 0,70 | 0,62 | 0,55 | 0,51 |