



FLEX 7 energy & power battery module

Opportunity-charging system for all-electric and hybrid heavy vehicles

| | | |
|--|---|--|
| | Full day operations or opportunity charging | + High power-to-energy ratio |
| | Easy integration | + Scalable modular system of 7 kWh modules connected both in series and in parallel + Optimized weight and volume for high vehicle's capacity |
| | High reliability & safety | + Liquid thermal management + Best-in-class proprietary BMS technology + R100-2; R10.5 certifications |
| | Great Total Cost of Ownership (TCO) & fast availability | + High cycle life up to 10 years + High-volume series production |

Flex 7 energy & power Li-ion NMC battery module

| PHYSICAL SPECIFICATIONS | CONDITIONS | UNIT | # MODULES | | | | | | | |
|---|----------------|-------|--|------|------|------|------|------|------|------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| VOLTAGE | | | | | | | | | | |
| Minimal | - | V | 65 | 130 | 194 | 259 | 324 | 389 | 454 | 519 |
| Nominal | - | V | 89 | 178 | 266 | 355 | 444 | 533 | 622 | 711 |
| End of charge | - | V | 98 | 197 | 295 | 394 | 492 | 590 | 689 | 787 |
| Maximum (Regeneration) | - | V | 101 | 202 | 302 | 403 | 504 | 605 | 706 | 807 |
| ENERGY / CAPACITY | | | | | | | | | | |
| Embedded energy | C/2, BOL | kWh | 7.1 | 14.2 | 21.3 | 28.4 | 35.5 | 42.6 | 49.7 | 56.8 |
| Self discharge | BOL | % | < 1.54% per month | | | | | | | |
| System capacity | BOL | | 80 Ah - two cells of 40 Ah in parallel | | | | | | | |
| POWER | | | | | | | | | | |
| Max. continuous power in discharge | SOC 50% | kW | 18 | 36 | 53 | 71 | 89 | 107 | 124 | 142 |
| Peak power in discharge (30 s) | SOC 50% | kW | 27 | 53 | 80 | 107 | 133 | 160 | 186 | 213 |
| Max. continuous power in charge | SOC 50% | kW | 18 | 36 | 53 | 71 | 89 | 107 | 124 | 142 |
| Peak power in charge (30 s) | SOC 50% | kW | 27 | 53 | 80 | 107 | 133 | 160 | 186 | 213 |
| CURRENT | | | | | | | | | | |
| Maximum continuous current in discharge | - | A | 200 (2.5 C) | | | | | | | |
| Peak current in discharge (30 s) | SOC 50% | A | 300 (3.5 C) | | | | | | | |
| Maximum continuous current in charge* | - | A | 200 (2.5 C) | | | | | | | |
| Peak current in charge (10 s) | SOC 50% | A | 300 (3.5 C) | | | | | | | |
| DENSITY | | | | | | | | | | |
| Specific energy | BOL | Wh/kg | 88 | | | | | | | |
| Energy density | BOL | Wh/L | 130 | | | | | | | |
| Power density | BOL | kW/kg | 219 | | | | | | | |
| CYCLE LIFE | | | | | | | | | | |
| Cycle life | 80% DOD, 1C/1C | | > 10,000 cycles | | | | | | | |
| MECHANICAL CHARACTERISTICS | | | | | | | | | | |
| Weight without water | | kg | 81 | 162 | 423 | 324 | 405 | 486 | 567 | 648 |
| Weight with water | | kg | 83 | 166 | 249 | 332 | 415 | 498 | 581 | 664 |
| Volume | | Liter | 55 | - | - | - | - | - | - | - |
| Height | | mm | 274 | - | - | - | - | - | - | - |
| Width | | mm | 280 | - | - | - | - | - | - | - |
| Depth without connectors | | mm | 670 | - | - | - | - | - | - | - |
| Depth with connectors | | mm | 713 | - | - | - | - | - | - | - |

@ 25°C | * to maximize lifetime, 1C charge is recommended | SOC: State Of Charge | SOH: State Of Health | DOD: Depth of Discharge | BOL: Beginning Of Life

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