

# UVES 33kWh NMC Heavy Duty Standard Pack

## ICPT Lithium-ion Battery

### Description

UVES 33kWh NMC battery module is an excellent component of eBus Battery System with a long service life for heavy duty automotive applications such as electric buses, electric trucks and vans and other heavy duty industrial applications. It is in a compact package of high energy density to save space and weight. The maintenance free design coupled with the intelligent remote monitoring function can eliminate maintenance efforts and save considerable operational costs of modern electric vehicle fleets

To ensure the safety and reliability of the battery, advanced BMS (battery management system) can protect the battery from abnormal conditions, such as over temperature, over charging/ discharging. It can also control the battery operation at the optimal condition to guarantee long service life. Embedded functional safety features ensure safe operation of the pack in the vehicle.

UVES 33kWh battery module have lifetime up to 10 years and possibility of 3000 cycles.

### Main features

#### High Safety

- Certification: R100.2
- Advanced BMS to protect battery module from abnormal conditions and high functional safety

#### Flexible Capacity Expansion

- Configuration up to 18 modules (33kWh to 600kWh per vehicle)

#### Excellent Manageability

- Very compact design
- Heavy Duty automotive connectors
- Allowed for multi-units or multi-vehicles remote management

### Applications

- Electric or hybrid buses
- Electric trucks and vans
- Heavy Duty utility vehicles



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### Technical specifications

| Possible cells configurations inside 33kWh module          |                                  |                 |                  |
|--|----------------------------------|-----------------|------------------|
| Cell setup   | Nominal Energy                   | Nominal Voltage | Nominal Capacity |
| 60S3P  | 33,3 kWh                         | 222V            | 150Ah            |
| 90S2P  | 33,3 kWh                         | 444V            | 100Ah            |
| 180S1P   | 33,3 kWh                         | 666V            | 50Ah             |
| Single string possible configurations                      |                                  |                 |                  |
| Modules setup  | Nominal Energy                   | Nominal Voltage |                  |
| 3 modules in series  | 100 kWh                          | 666V            |                  |
| 2 modules in series  | 67kWh                            | 444V            |                  |
| Single module  | 33,3 kWh                         | 222V            |                  |
| Battery system   |                                  |                 |                  |
| Cells type   | Li-ion NMC                       |                 |                  |
| Nominal capacity (current 0,2C, at 25 °C)                  | 50 Ah                            |                 |                  |
| Nominal Energy   | 33,3 kWh                         |                 |                  |
| Nominal system voltage                                     | 666 V                            |                 |                  |
| Maximum system voltage                                     | 748 V                            |                 |                  |
| Minimum system voltage                                     | 540 V                            |                 |                  |
| Charging current (continuous, @ 25 °C)                     | 150 A                            |                 |                  |
| Discharging current (continuous, @ 25 °C)                  | 150 A                            |                 |                  |
| Operating conditions                                       |                                  |                 |                  |
| Operating temperature recommended (no cooling, no heating) | 0 C to +55 °C                    |                 |                  |
| Operated temperature extended (liquid cooling and heating) | -20 C to +60 °C                  |                 |                  |
| Protection class   | IP 65                            |                 |                  |
| Humidity   | Up to 95% (without condensation) |                 |                  |
| General  |                                  |                 |                  |
| Power Connection   | Heavy Duty Harting connector     |                 |                  |
| Signal Connection  | Heavy Duty Harting connector     |                 |                  |

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### Technical specifications

|                                 |   |
|---------------------------------|---|
| Battery Management System (BMS) | Charge and discharge current protection, temperature and voltage cells protection, balancing module on each cell, communication with master controller with J1939 |
| Communication                   | CAN   |

#### Standards

|              |           |
|--------------|-----------|
| Homologation | UN R100.2 |
|--------------|-----------|

#### Mechanic

|                                |                     |
|--------------------------------|---------------------|
| Dimensions overall (W x H x D) | 1611 x 836 x 280 mm |
| Weight                         | 350 Kg              |

#### Storage conditions

|                     |  |
|---------------------|--|
| Storage temperature | 1 year: 0 C to +25 °C<br>3 months: 0 C to +45 °C<br>1 month: 0 C to +55 °C |
| Humidity            | Below 60%  |

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