

36–48 V Electrification Kit – Motenergy Motor & ZAPI Drive



Reference : EVEA-P10-48V

Brand : EVEA

Options :

No variants

3D Model : Not available

EAN-13 : 5689752621657

Manufacturer reference (MNP): EVEA-P10-48V | **Brand:** EVEA Distribution / Motenergy integration + ZAPI controller

This **36–48 V** electrification kit combines a Motenergy **PMSM brushless synchronous motor** ME1905 (ME1507) with a ZAPI BLE2 48 V 550 A inverter/controller to form a low-voltage traction drivetrain ready for integration. Designed as a conversion kit, it targets electrification and retrofit projects for light vehicles, utility vehicles, industrial or agricultural machines operating on a 36–48 V DC battery system.

The package includes the motor, the controller, the main harness/connectors (power and control), cables, lugs, protective devices and a DC main power contactor, as well as preparation, configuration and testing services. It is supplied without a battery or control device (pedal, joystick, PLC/controller), leaving full freedom of choice and sizing to the engineering team.

Key advantages

- Complete **36–48 V** drivetrain based on a Motenergy ME1905 (ME1507) PMSM brushless motor and a **ZAPI BLE2 48 V 550 A** controller.
- Low-voltage architecture suited to light vehicles, industrial and agricultural machines, and 36–48 V DC retrofit projects.
- Structured kit including motor, controller, sealed connectors, cables, lugs, protective devices and a DC main power contactor.
- Indicative nominal power of around **12 kW**, with higher peak capability depending on parameter settings and cooling.
- Typical **CAN bus** communication on the ZAPI BLE2 controller for integration with a vehicle controller or PLC.

- Controller preparation, configuration and testing included, to simplify drivetrain commissioning.
- Integration and assembly performed in France, with possible support from EVEA Distribution's mechanical and electronics engineering office.
- Compatibility with various **36–48 V** battery technologies (to be validated case by case: chemistry, capacity, current, BMS).

Technical specifications

Parameter	Value
Technology	Motenergy ME1905 (ME1507) PMSM brushless synchronous motor driven by a ZAPI BLE2 48 V 550 A controller.
Product type	Conversion / electrification kit for vehicles, supplied without battery and without control device (pedal, joystick, etc.).
Main operating range	Nominal voltage 36–48 V DC; typical range approximately 30 to 60 V depending on battery configuration and controller limits (to be confirmed in datasheets).
Nominal kit power	Approximately 12 kW in continuous operation; indicative value depending on controller settings, cooling and duty cycle.
Maximum power (indicative)	Up to ~48 kW peak in the original kit; the usable power with a 48 V 550 A controller must be recalculated based on manufacturer data and the application study.
Controller maximum current	ZAPI BLE2 48 V 550 A controller; current profiles (peak, duration, thermal derating) to be specified in ZAPI documentation and parameter settings.
Main motor	1 × Motenergy ME1905 (ME1507) PMSM brushless synchronous motor, typical power on the order of 20 kW; torque/speed and efficiency curves to be checked in the manufacturer datasheet.
Total kit mass	Approximately 33 kg for motor + controller + main components; indicative value that may vary slightly depending on version.
Operating environment	Indicative service temperature -20 °C to +50 °C based on kit data; check exact motor/controller limits and thermal derating.
Control interfaces / connections	35-pin female AMPSEAL connector, DELPHI GT150 (4/8/12-pin) connectors, AMP Superséal 1.5 connectors for controller signals and I/O; CAN bus for communication (to be confirmed depending on BLE2 version).
Power cables and links	Flexible auxiliary cables (typical cross-section 1.5 mm ²) and extra-flexible high cross-section cable (typically 70 mm ² in the original kit) for battery–controller–motor links; final sizing to be adapted to the project.
Protection and main disconnect	Low-voltage ATO automotive fuses for auxiliary circuits and an HV500F-149 DC contactor 500 V 500 A, 24 V coil, for main disconnection.
Dimensions / packaging	Detailed dimensions of the ME1905 motor and the ZAPI BLE2 controller to be taken from manufacturer drawings for integration into chassis, engine bay or enclosure.
Standards / compliance	Electrical, EMC and safety compliance to be verified for each component and validated at the vehicle/machine level (Machinery Directive, road/marine regulations, etc.).
Country of integration	Kit assembled and configured in France ("Made in France" for integration; third-party brand components).

Typical applications

- Retrofit of small road vehicles or light utility vehicles with a 36–48 V battery architecture.
- Electric traction for industrial or logistics equipment (carts, handling platforms, low-speed special vehicles) at 48 V.
- Electrification of compact agricultural machinery or mobile tools requiring a main low-voltage electric drive.
- Propulsion or auxiliary drive for small marine units at 48 V, subject to environmental validation and suitable protection.
- Prototypes, demonstrators and experimental e-mobility vehicles using a preconfigured motor + controller set.
- Traction, winching or translation systems based on a 48 V battery in industrial or off-road environments.
- Conversion of existing ICE vehicles to low-voltage electric drivetrains as part of supervised retrofit projects.
- Test benches or laboratory drive systems requiring a configurable 36–48 V drivetrain.

Recommended integration

- Size a 36–48 V battery pack (voltage, capacity, discharge current) according to the mission profile: continuous power, torque peaks, operating time and ambient temperature.
- Verify the electrical and mechanical compatibility of the ZAPI BLE2 48 V 550 A controller with the existing architecture (power supply, cooling, available space, connectors).
- Provide a control unit or PLC (CAN/CANopen or analog/digital I/O depending on controller version) to manage torque/speed commands, ramps and safety functions.
- Mount the ME1905 motor to the chassis with the dedicated hardware, ensuring shaft alignment, driveline connection (gearbox, chain, belt, shaft) and mechanical loads.
- Install the ZAPI BLE2 controller in a ventilated or cooled area in accordance with manufacturer recommendations, with easy access to connectors for diagnostics and maintenance.
- Build the power wiring using suitably sized conductors (for example 70 mm² for the main links in the original kit), protective sheathing and controlled routing (bend radii, abrasion, vibration).
- Use the supplied AMPSEAL, DELPHI GT150 and AMP Superseal connectors for the control wiring, following proper crimping, sealing and conductor identification practices.
- Integrate protection devices: main fuses, sealed fuse holders, HV500F-149 contactor controlled by the safety chain, and optionally additional DC breakers or disconnect switches.
- Implement an accessible emergency shutdown circuit (emergency stop button, main switch) integrated into the vehicle/machine safety logic.
- Entrust controller parameterization (current limits, ramps, thermal thresholds, braking modes, fault handling) to trained technicians, in coordination with EVEA Distribution's engineering office.
- Document the electrical architecture (schematics, BOMs, wiring diagrams) and update internal documentation when migrating to this ME1905 + ZAPI BLE2 kit.

Operating conditions

- Respect the specified operating voltage range for the ME1905 motor and the ZAPI BLE2 controller; avoid prolonged overvoltage or undervoltage on the DC bus.
- Verify the thermal sizing of the full assembly (motor, controller, cables, contactor) according to the use profile: continuous operation, current peaks, repetitive cycles, ambient temperature.

- Install the kit in an environment compatible with the protection ratings of the components (water, dust, corrosive atmospheres) as defined in the manufacturer documentation.
- Provide easily accessible disconnection and emergency stop devices for the user/operator, integrated into the safety chain.
- Regularly check tightening of power lugs, and the mechanical condition of cables and connectors to prevent overheating, wear or corrosion.
- Ensure regulatory compliance of the complete vehicle or machine (Machinery Directive, EMC, road or marine regulations as applicable) before commissioning.
- Carry out configuration, software updates and diagnostics using suitable tools and trained personnel.
- Adapt controller parameters and battery sizing when operating in extreme environments (low/high temperatures, severe vibration, harsh atmospheres).

The characteristics presented are based on the original kit composition and on replacing the controller with a ZAPI BLE2 48 V 550 A model, without changing the general drivetrain principle. Detailed performance (torque/speed curves, efficiency, thermal limits, current profiles) must be confirmed using official Motenergy and ZAPI documentation and, where applicable, supplemented by an integration study carried out with EVEA Distribution's engineering office.

This approach makes it possible to optimize battery sizing, mechanical and electrical architecture, CAN/CANopen programming and safety devices to the specific constraints of each project in the road, industrial, agricultural or marine domains.

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