



VEM and SwissDrives

present a compact drive unit for heavy-duty rail transportation that meets the specified standards for rail equipment.

Electric motor - based on DIN EN 60034:

- Machine safety: in accordance with EN 60204-1
- Fire behaviour: according to NF F16-101 / 102
- Balancing tolerance for rotors: in accordance with DIN ISO 21940-11
- Surface protection: Special coating in accordance with DBS 918300
- Fire protection: according to EN 45545-2, HL3

Frequency inverter:

- Thermal shock resistance: tested according to EN 60068
- Ambient conditions: in accordance with EN 50155, OT1
- Vibration resistance: according to EN 61373, class 1 / category 1B
- Electromagnetic compatibility (EMC): tested in accordance with EN 50121-3-2
- Protection class IP66: according to EN 60529
- Fire protection: according to EN 45545-1/-2, HL3

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ELECTRIC DRIVES

FOR EVERY DEMAND



**Smart auxiliary drives
for railway applications**

powered by SwissDrives VFD



VEM-IE5 synchronous reluctance motor with SwissDrives GA500 C-line

The VEM synchronous reluctance motor, equipped with an innovative inverter, sets new standards in drive systems. With its compact design and powerful features, it offers impressive versatility that has proven itself in numerous applications. It also meets the most important railway standards, making it ideal for use in rail transport.

- compact
- powerful
- versatile

Thanks to the advanced inverter combined with our powerful, energy-efficient and robust IE5 synchronous reluctance motor, the drive achieves 2.5 kW. The motor can be precisely controlled, which not only optimises its performance, but also enhances its ability to adapt to different operating situations.

This intelligent drive is therefore an ideal solution for modern applications in the transportation sector. Other power ratings are currently being developed.

A drive for heavy-duty use on railway vehicles



Synchronous reluctance motor
IE5 - RS1R 90 L4 IM B3, 1.5 kW
with GA500 C-line frequency inverter

Advantages of the GA500 C-line

- Thanks to the frequency inverter's open-loop vector control, encoder feedback is not required.
- Oscilloscope, analysis tools and soft PLC provide additional functionality.
- Customer-specific interfaces with digital and analogue inputs and outputs and optional fieldbus are available.
- A USB PC interface and an RJ45 connection (RS-485) are available for commissioning.