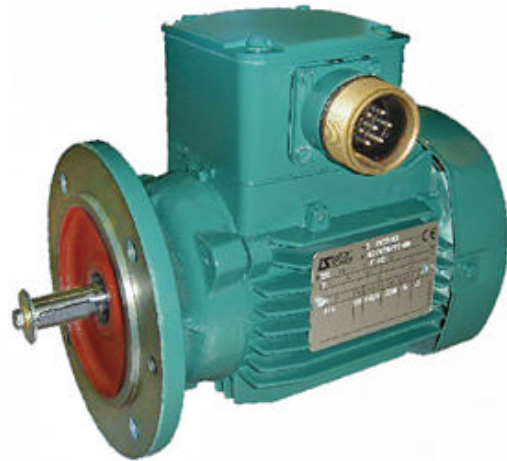


**FD – FS - FE**



## **Asynchronous motors for railway applications**

Over the last 40 years, **LEROY-SOMER** has built up a sound reputation as a supplier of innovative, reliable, high-performance drive systems, designed to satisfy all on-board railway applications (HVAC, braking, IGBT electronic supply voltage, traction motors, etc.).

Always listening to the expectations of railway operators and manufacturers, **LEROY-SOMER** offers a full range of asynchronous motors, from 0.5 to 50 kW, incorporating MTBF (Mean Time Between Failure) and LCC (Life Cycle Cost) criteria, right from the design stage.

This range, with several different design levels, relies on:

- Experience gained from over 350,000 installed motors
- The qualification of our winding insulation systems by partial discharge tests, in a harsh rolling stock environment (vibrations, temperatures, severe power supply conditions, etc.).

**LEROY-SOMER** offers technical solutions developed specifically according to the specifications of the largest international programmes:

- ✦ **Level 2 railway motors**, type **FD**  
with an MTBF < 100,000 hours
- ✦ **Level 3 railway motors**, type **FS**  
with an MTBF < 250,000 hours
- ✦ **Level 4 railway motors**, type **FE**  
with an MTBF up to 1,000,000 hours

In extending the service life of trains to 40 years or incorporating new functions (such as HVAC, or a platform for people with reduced mobility), railway operators find **innovative revamping solutions** from **LEROY-SOMER** for inserting into the most confined places.

Having expertise in all the basic motor manufacturing techniques (sheet metal cutting, foundry work, machining, winding, testing, etc.), **LEROY-SOMER** is also meeting these new expectations by developing compact motors, accepting either an old or new generation electrical power supply.