



Europrinter ES64F4

The locomotive platform for passenger
and heavy freight transport in Europe

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Border-Crossin

A platform concept to meet the demands of European rail transportation



g Capability

The Europrinter platform concept of a modern four-system locomotive opens up new perspectives in the interoperable transport of passengers and goods. This locomotive can operate in all four of the line voltage systems commonly used in Europe and is distinguished by its low energy consumption and ability to transport even extremely heavy loads reliably over millions of kilometers.

Mobility will be the primary challenge facing us in the years to come. In order to remain mobile, we need networked transportation and information systems. For only if all modes of transportation are effectively coordinated to each other and interact perfectly, will it be possible to meet the future demands for mobility. For this purpose, Siemens introduced its "Complete mobility" approach aimed at creating integrated transportation and logistics solutions for safe, cost-effective and environmentally compatible passenger and freight transport. Siemens has all the necessary means to do this – everything from infrastructure facilities for rail and road transportation to rolling stock, from airport logistics to postal automation.

A key component of "Complete mobility" involves cost-effective solutions for rail-bound transportation – whether for keeping cities and major conurbations mobile or for linking urban centers and countries.

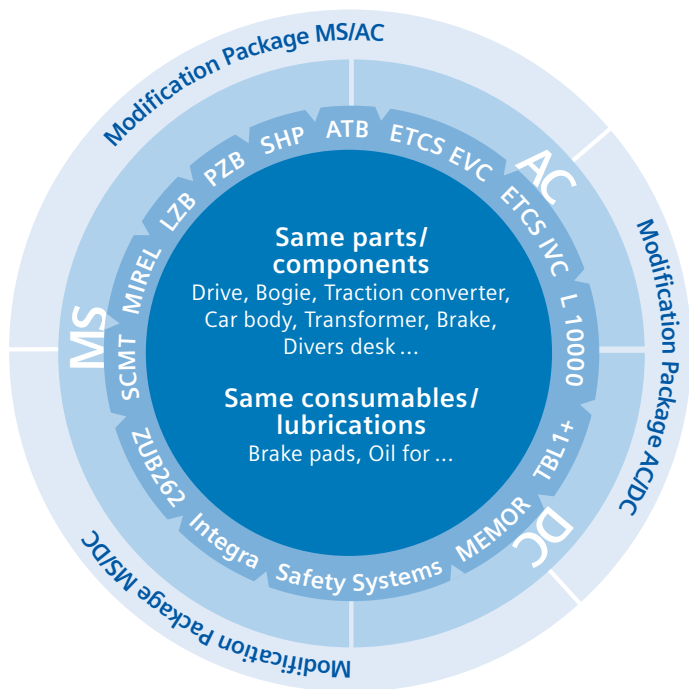


Strong for Europe

New standards for the development of international corridors

With its pioneering platform concept, the ES64F4 four-system locomotive ensures smooth and seamless transport across international borders.

- First type of locomotive for continuous transport from Rotterdam to Italy, including ETCS L2 for the Betuwe Line and Switzerland
- Daily service in nine countries with up to 28 system changes
- Fully automatic multiple unit operation, also in combination with diesel locomotives
- Special pantograph operating modes result in country-specific degrees of freedom for special tasks involving infrastructure such as shunting in a container terminal or clearing track in the event of a pantograph failure
- The locomotive equipment permits unrestricted travel through the Venlo (NL) and Decin (CZ) freight junctions without the need to acquire additional train protection systems
- Reduced time for system changeovers because test runs with all automatic train protection systems can be carried out before any train crosses a border
- The operator's investment is protected by the use of ETCS with integrated conventional automatic train control and protection systems
- Fire-extinguishing concept satisfies the requirements of the Kyoto Protocol, has been homologated throughout Europe, works without residue and is activated by failsafe temperature sensors
- Transparent concept for intuitive and user-friendly man-machine-interface



A future-safe investment

The different types of equipment can easily be converted, upgraded or downgraded and thus help to ensure a high degree of flexibility for future applications.

Country homologations

14

System changeovers

28

Automatic train control systems

13



Solid Endurance

In the lead through availability

The experience gained from continuous operation over millions of kilometers and the comprehensive modular service concept make the ES64F4 a locomotive that you can always rely on.

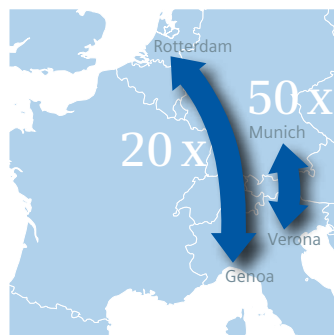
- Over 100 million fleet kilometers (equalling 2,300 times around the world) covered by twelve international customers
- Over 99% availability ensures permanent quality and economic efficiency
- 99% parts commonality across all platform versions secures maximum possible synergies in the spare part supply
- Interactive spare parts catalog facilitates the entire ordering process
- Low lifecycle costs thanks to best-in-class maintenance intervals of 25,000 km

Fleet kilometers completed (as of 12/2008)

100 million km

Proportion of common parts

99%



25,000 km maintenance interval

- This corresponds to:
- 20 times from Rotterdam to Genoa (1,230 km)
 - more than 50 times from Munich to Verona (465 km)



Athletic Strength

More power for greater efficiency

The locomotives of the Europrinter platform represent a lasting combination of strength and intelligence: every peak traction value is beneficial to the customer. It improves environmental compatibility and reduces costs.

- Best-in-class utilization of tractive effort enables cost-effective operation with considerably heavier hauled loads, even on topographically demanding routes
- High electric braking effort of up to 300 kN feeds more braking energy back into the power grid and thereby reduces wear on the brakes
- Energy costs lower than for comparable locomotives thanks to approximately 3% better efficiency
- Automatic coupling enables haulage of very heavy trains up to 6,000 metric tons, e.g. iron ore trains
- Optional tractive effort booster with up to 350 kN

Power rating

6,400 kW

Maximum electric braking effort

300 kN

Optional tractive effort booster

350 kN

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descriptions of the technical options available, which
do not have to be present in all individual cases. The
required features should therefore be specified in each
individual case at the time of closing the contract.

