

ABSTRACT**Method for detecting faults on a power supply line for railway vehicles**

This method for detecting faults on a power supply line (10) for railway vehicles is provided for a line (10) extending between at least a first and a second reversible substation (20A, 20B) able to supply an electrical current (I) circulating on the electrical power supply line (10), the first substation (20A) being controlled in a current supply mode, to supply electrical current to the electrical power supply line (10), and the second substation (20B) being controlled in a current recovery mode, to recover the electrical current from the power supply line (10) and return it on an electrical power distribution network (15).

The method comprises, successively:

- a step of establishing a voltage difference between the output terminals of the first and second substations (20A, 20B) such that a current (I) circulates on the electrical power supply line (10) between the first substation (20A) and the second substation (20B);

- a step of determining the impedance value of the power supply line (10) at a nominal temperature; and

- a step of comparing the value of the determined impedance of the power supply line (10) at the nominal temperature with an expected nominal impedance of the power supply line (10) at the nominal temperature.

Figure 2