

LOCALLY OR REMOTELY CONTROLLED APPARATUS IN METALIC CASE OF MEDIUM VOLTAGE FOR PRIMARY AND SECONDARY DISTRIBUTION OF ELECTRIC ENERGY

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Description

The invention refers to locally or remotely controlled medium voltage metal enclosed switchgear for the primary and secondary distribution of electricity. The switchgear is fitted with multipurpose circuit breakers which provide for both interruption and separation functions and vacuum insulated earthing switches. These components provide for the same mechanical endurance at the level of vacuum circuit breaker, allowing for remote control operation of all switchgears at the same level of reliability, in order to minimize the periods of lack of power supply and to optimize the distribution of electricity to the beneficiary.

The primary diagram of the medium voltage line cell, for indoor use, for primary distribution, fitted with a withdrawable multifunction vacuum switching apparatus with one or two breaking points: fig. 1a and fig. 1b.

The primary diagram of the medium voltage line cell, for indoor use, for secondary distribution, fitted with a fixed multifunction vacuum switching apparatus with one or two breaking points fig. 2a and fig. 2b.

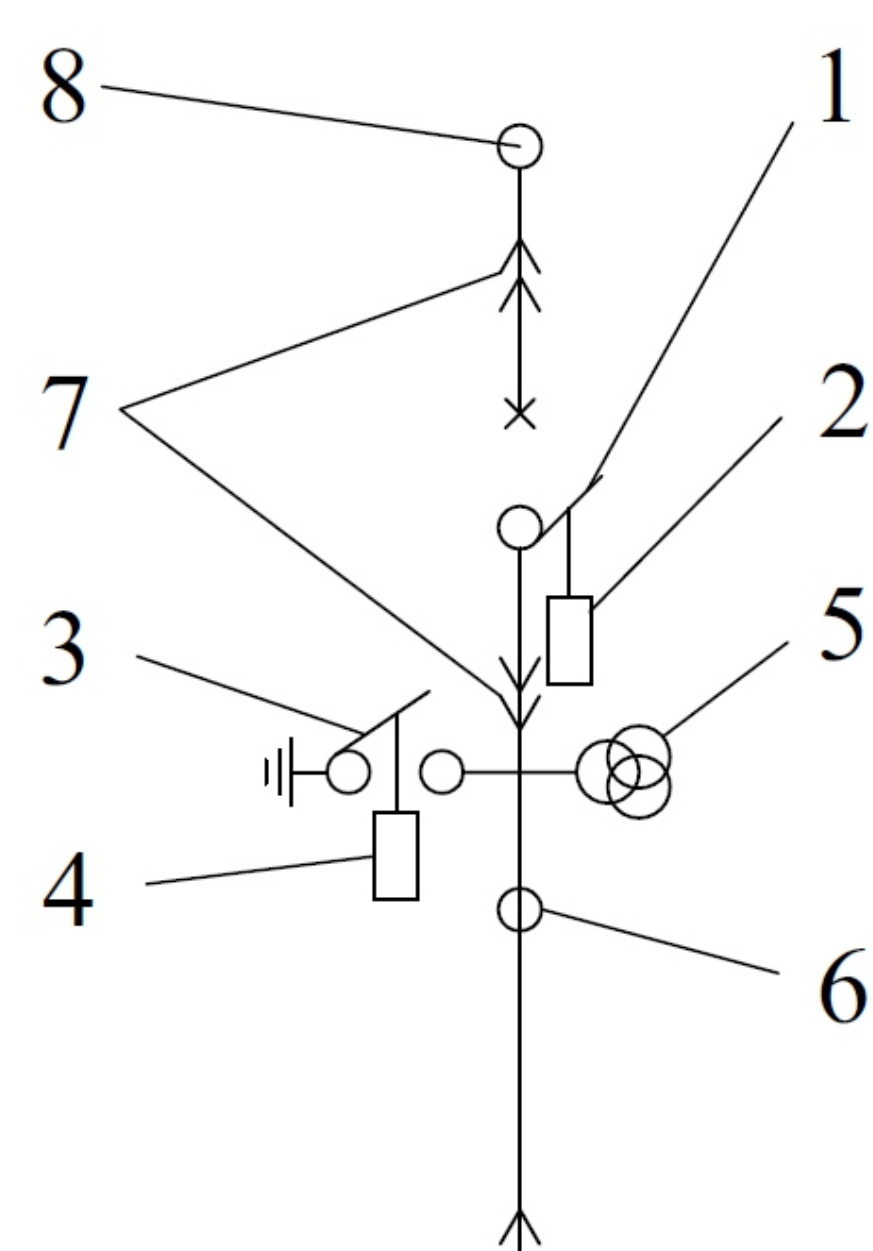


Fig. 1a

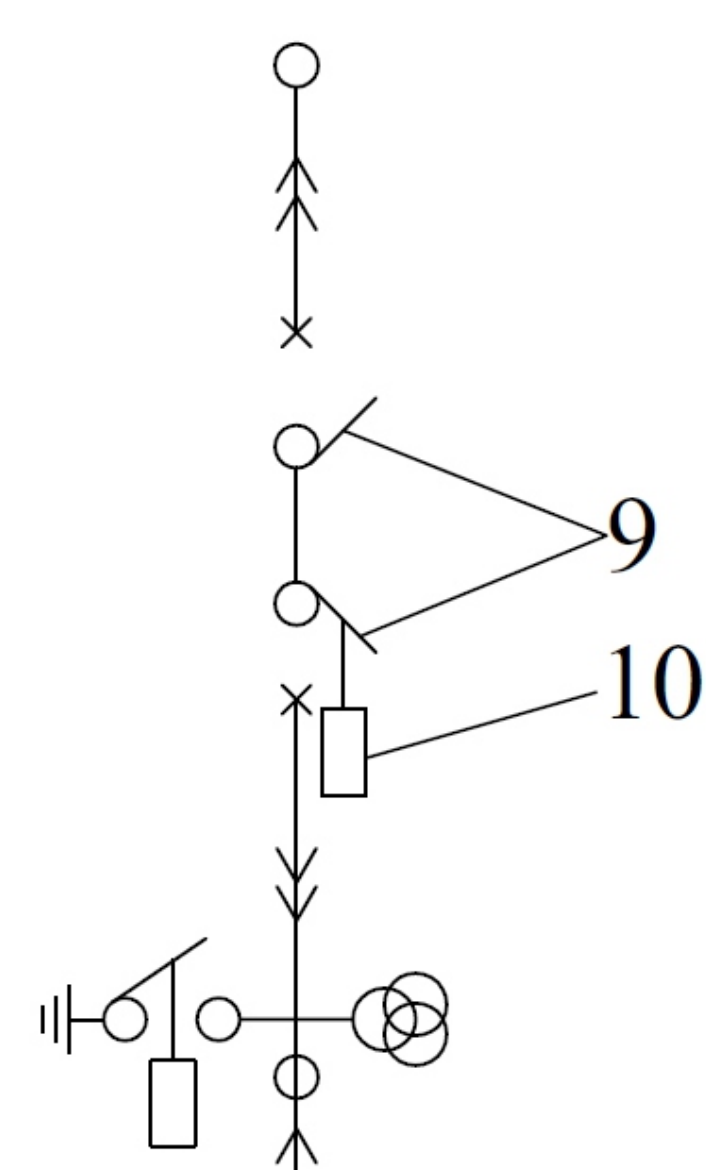


Fig. 1b

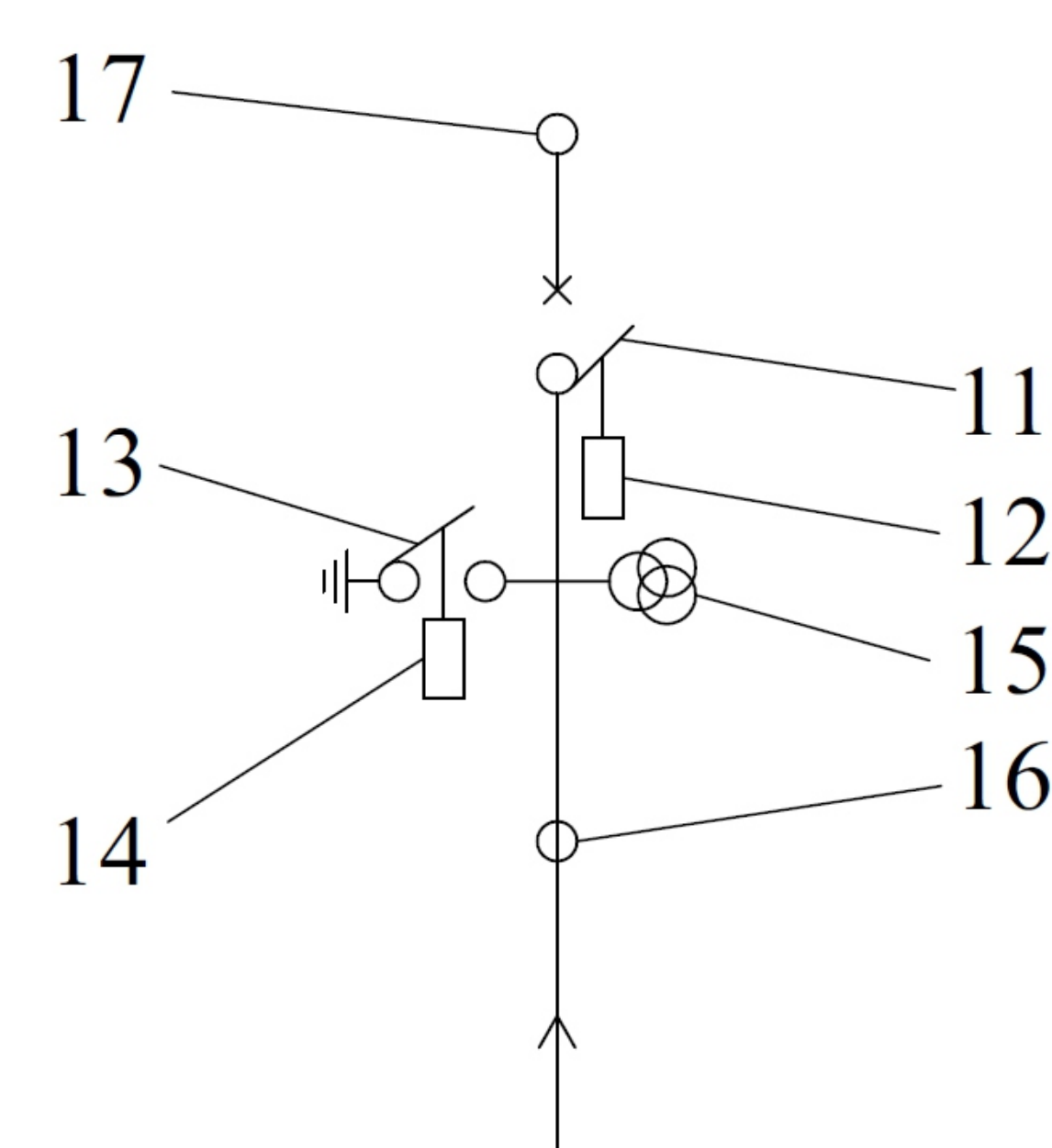


Fig. 2a

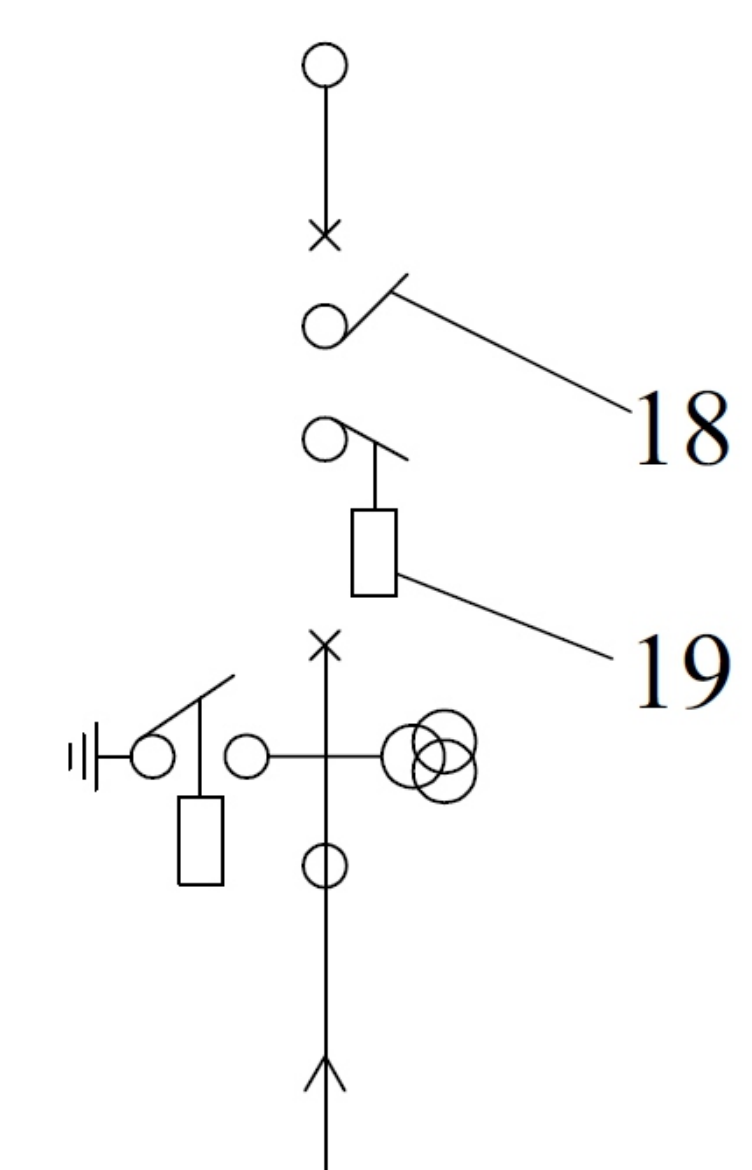


Fig. 2b

- 1-Multipurpose or mechanical vacuum on-load switch
- 2-Driving mechanism with electromagnets with permanent magnets for the circuit breaker
- 3-Vacuum insulated earthing switch
- 4-Driving mechanism with electromagnets with permanent magnets for the switch
- 5-Measuring voltage transformer
- 6-Measuring current transformer
- 7-Broaches for the ram/slide fitted with a circuit breaker
- 8-General bar
- 9-Withdrawable multifunction vacuum circuit breaker with two breaking points
- 10- Driving mechanism with electromagnets with permanent magnets for the circuit breaker 9

- 11- Fixed multifunction vacuum circuit breaker with one breaking point
- 12-Driving mechanism with electromagnets with permanent magnets for the circuit breaker 11
- 13-Fixed vacuum insulated earthing switch
- 14-Driving mechanism with electromagnets with permanent magnets for the switch 13
- 15-Measuring voltage transformers
- 16-Measuring current transformers
- 17-General bar
- 18-Fixed multifunction vacuum circuit breaker with two breaking points
- 19-Driving mechanism with electromagnets with permanent magnets for the circuit breaker 18

Advantages

- They increase the reliability of the primary or secondary distribution cells and their energy efficiency for the distribution of electricity;
- They simplify the primary circuit diagrams by using a smaller number of switching devices;
- They allow the execution of multifunction devices which provide a smaller volume of the cells;
- The use of solid insulation ensures the reliability of gas cells, thus eliminating the use of sulfur hexafluoride in the structure of cells and apparatus of equipment;
- They allow the single-phase execution of vacuum switching apparatus of equipment in order to avoid short-circuit fault between phases with much greater (economic and environmental) effects than in the case of an earth fault (due to the generated short-circuit currents values);
- The primary diagrams, in the case of cells allow the use of the same device as multifunctional vacuum circuit breaker or as mechanical vacuum switch disconnecter.

Applicability

Trading companies producing electrical equipment for secondary distribution of electricity