

TV Progress Traction Equipment for Tramcar Refurbishment

Public transit is more effective with us

Cegelec a.s. has developed the up-to-date DC electrical equipment with the Cegelec TV Progress tradename determined for the control of tramcar traction motors.

The design and construction conception of the equipment is well applicable for the refurbishment of tramcars as well where the high operating reliability and perfection of the electrical equipment are advantages that considerably contribute to the economical operation of tramcars.

The application of the main and stand-by converters with IGBT transistors in connection with the dynamic characteristics of the regulation system has predetermined to this equipment an extraordinary resistance to transient effects and short circuits.

Cegelec a.s. has designed a power range of this electrical equipment applicable to advantage also for the refurbishment of metro and trolleybuses.

Features of TV Progress

- Sufficient power for dynamical operation of tramcars. Electrical equipment is dimensioned for 2 x 180 kW and for electrodynamical brake of 2 x 250 kW with two driven bogies.



Container arrangement of traction equipment

- Possibility of any number of driven bogies
- Full functional independence at the control of single bogies including stand-by brake
- Instantaneous transition from running to braking with the excitation current in traction motors being kept
- Contactless execution, i.e. without movable parts ensuring the functions
- Permanent switching of line contactors under the whole time of non-failure operation
- Simple connection of the container by six power cables
- Efficient anti-slip protection
- Application for both positive and negative trolley voltage
- High resistance to radio-frequency interference
- High resistance to failure states ensuring safe operation
- Overvoltage limiting in the tractive network under all modes
- Limiting of short-circuit current to 400 A
- Limiting the maximal speed
- Suppression of the ripple effect caused by the outside electrical equipment

Cegelec

Solutions & Services

Services offered:

- Considerable savings in electric energy – using the pulse regulation with recuperative braking means 40 – 43 % savings in comparison with the application of resistor regulation.
- Considerable reduction of costs on maintenance, repairs and spare parts amplified by the application of connection without running, braking and shunting contactors and direction contactors.
- Full comfort for both the driver and passengers provided by the fluent current regulation under the running, excitation weakening and braking.
- High resistance to moisture and impurities guaranteed by the container type construction. The equipment is maintenance-free, no adjustment required.



Assembly of TV Progress traction equipment

Cegelec – system supplier of the TV Progress traction equipment for the tramcar refurbishment

- complex projects for the refurbishment of tramcar traction equipment
- assembly, chief-assembly and setting into operation of traction equipment at the customer's
- supplier of static converters of the Cegelec SMTK line for tramcars
- supplier of the vehicle control system including diagnostics
- supplier of analog and digital regulators of the tramcar drive



Zwickau (Germany) - tramcars KT4D after refurbishment



Prague (Czech Republic) tramcar T3 after refurbishment



Static converter SMTK 6,3



Microprocessor regulator TRS-DC



Analog regulator RDC

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