

Ingeteam

High speed power heads ■■■■■■



INGETEAM Traction has developed and supplied all the electrical equipment for high speed power heads of new trains that TALGO will supply to Uzbekistan

INGETEAM Traction has developed and supplied the electrical equipment for high speed power heads for the new trains that TALGO will supply to Uzbekistan. The maximum speed of the train is 250km/h and the supply voltage is 25 kVac, 50 Hz.

The trains will come into service on Uzbekistan railway lines (gauge: 1.520mm) in 2011.

Ingeteam's supply includes the complete electrical engineering and supply of the traction system; auxiliary, battery charger and control cabinets; High voltage cell and electronic control system.

Amongst all the equipment, the main element is the traction converter. The traction converter contains: Active Front End (AFE) rectifiers, two traction converters that feed two

traction motors each and three auxiliary converters. Two of these auxiliary traction converters supply the auxiliary power necessary for the power head with a total power of 150kVA each and the third is the supply of 250kVA for the passenger cars. The compact design of this converter and the incorporation of the passenger car auxiliary converter will allow TALGO to add approximately up to 20 seats more in the two end cars.

The control system is based on the electronic control system developed in-house, with decentralised I/Os and MVB, WTB Communications modules, according to IEC 61375-1 TCN standards. It is also equipped with signaling and communications devices compatible with the country's standards.



Technical characteristics

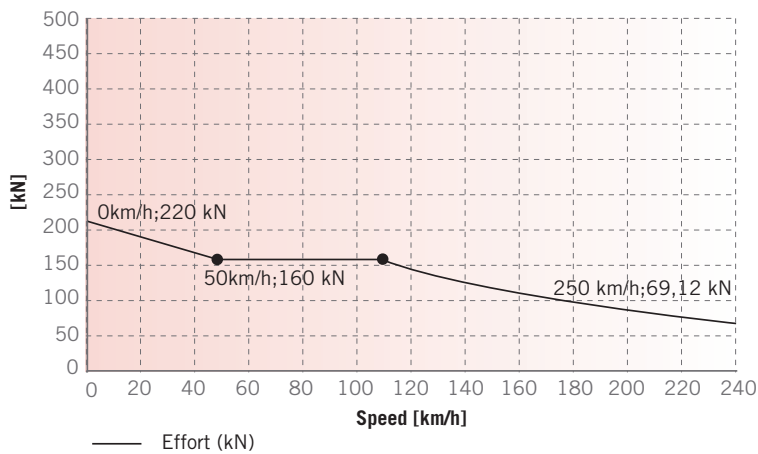
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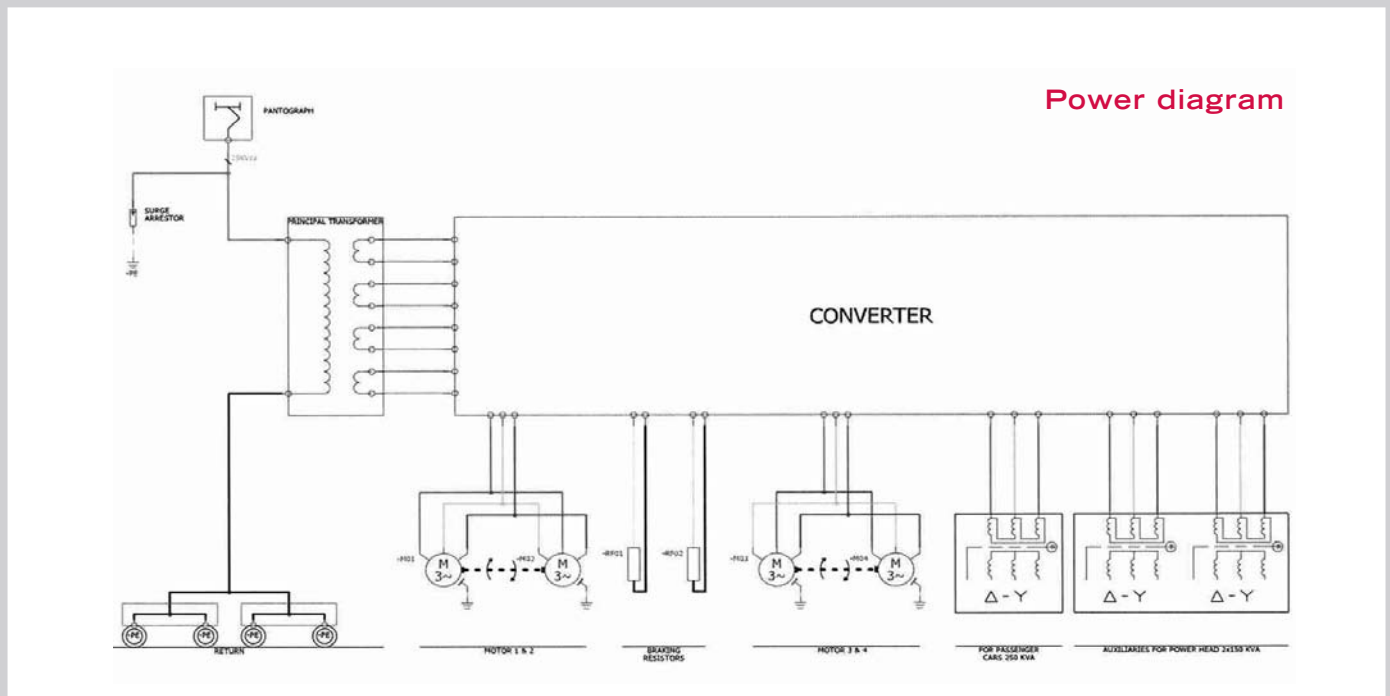
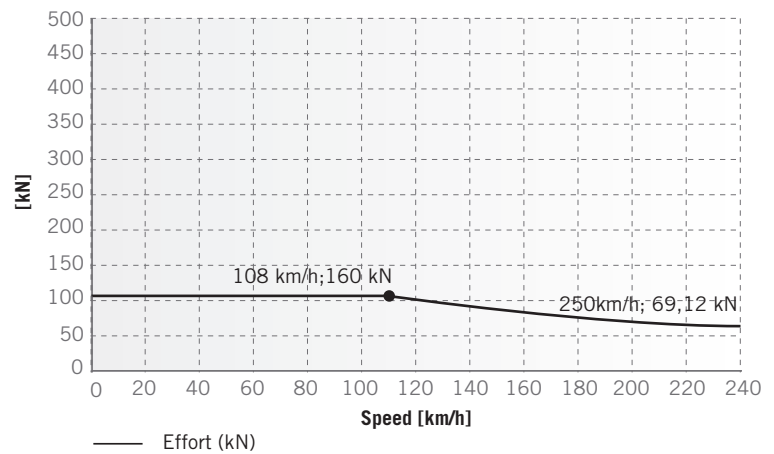
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|----------------------------|------------------------------|
| Input catenary voltage : | 25 kVac 50 Hz (+ 25% / -30%) |
| Nr. of inverters: | 2 independent inverters |
| Nr. of motor per inverter: | 2 |
| Inverter topology: | 2-level inverter |
| Continuous power/motor: | 632 KW |
| Max. power / inverter: | 1,400 KW |
| Semiconductor topology: | 6.5 kV IGBTs |

| | |
|-------------------------------|--------------------------|
| Output voltage of inverter: | 0 to 2,807 Vrms |
| Output frequency of inverter: | 0 to 154.6 Hz |
| Output current per inverter: | 0 to 300 Arms/phase |
| Cooling system: | water |
| Temp. range: | -25°C to 50°C |
| Electric braking: | regenerative to catenary |
| Secondary electric braking: | rheostatic |

Maximum traction effort characteristic in train speed function



Maximum braking effort characteristic in train speed function



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