

Modernisation of Cam controller assemblies

Description

Many operating companies of vehicles controlled by a cam controller or a power contactor assembly have to face the question of how the propulsion control of such vehicles can be adapted to the latest technology at an economically viable cost.

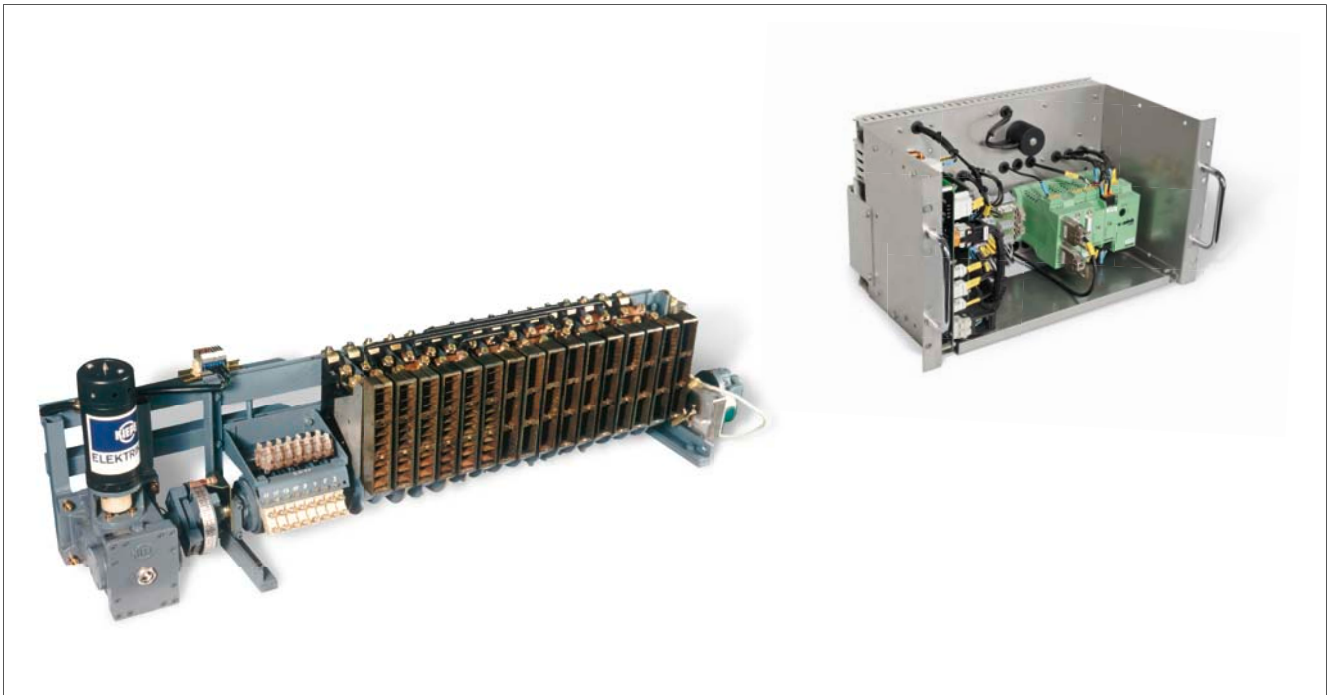
Vossloh Kiepe offers the modernisation of complete propulsion system by means of modern IGBT traction inverters. But more cost-effective control unit concepts are also offered in addition, which are individually developed taking

requirements specific to vehicles as well as customers into consideration. Special attention is paid to the implementation of a simple plug-and-play solution. Here our wide product range of modular Kiepe control components can be used.

Thus all functions common for Vossloh Kiepe – such as CANopen and diagnostic capabilities – can be realized by means of these modern drive control units.

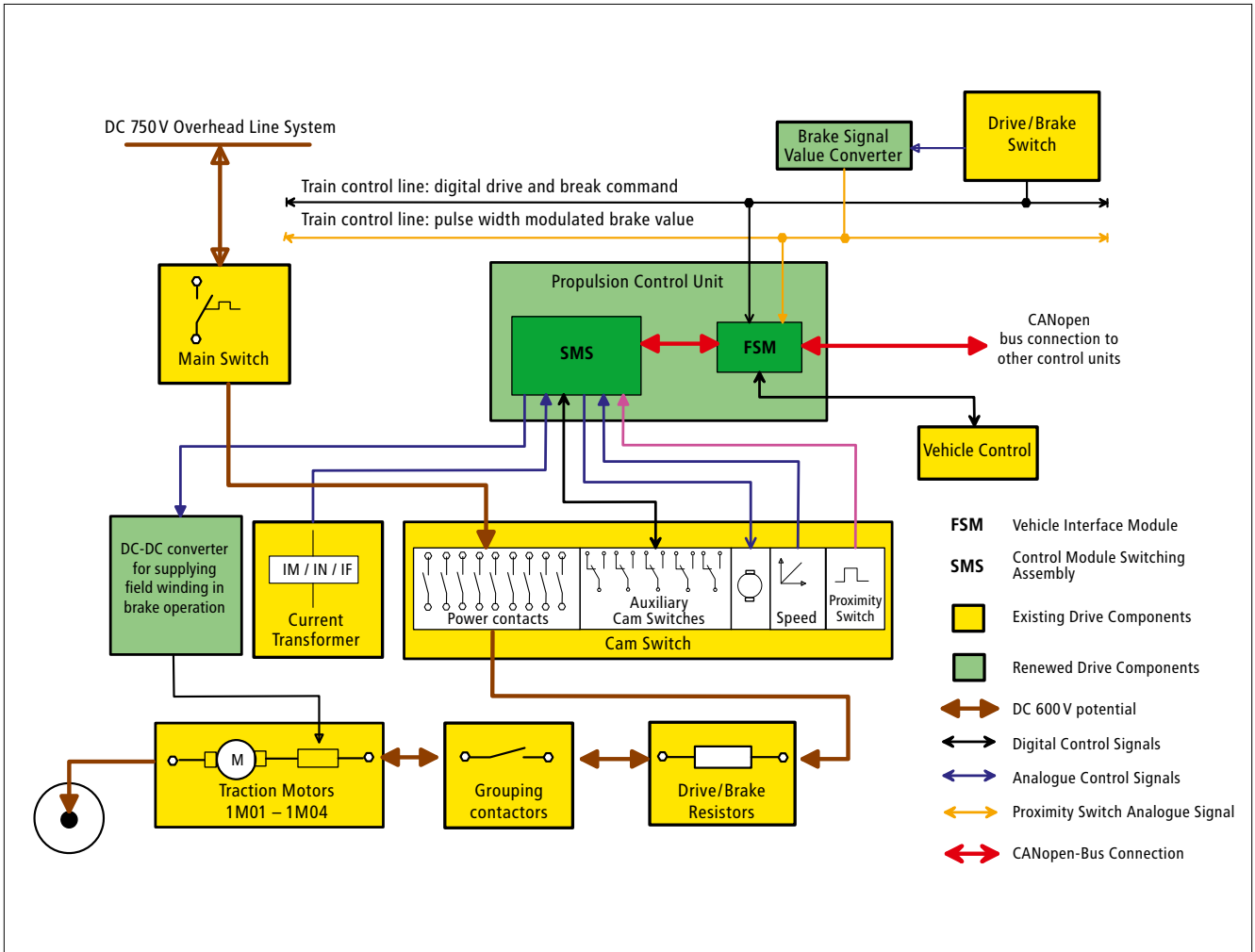
In addition, the plug-and-play feature allows for a low-cost modernising of the propulsion system during regular check-ups. Drive-relevant, plug-and-play sub-components such as master controller, brake pre-excitation and field regulators for the feeding of separately excited brakes can also be optionally integrated into the vehicles.

Concept photo



Refurbished cam controller with a new developed propulsion control unit.

Modernised concept of a cam controlled DC drive



The block diagram shows an example of a modernisation concept for a cam controlled DC drive. Vossloh Kiepe offers vehicle specific plug-and-play solutions for all devices marked in green. These solutions feature almost complete compatibility regarding installation, plugs and functionality.

The Vossloh Kiepe propulsion control unit can be connected with other components, such as door control devices or static converter via a CANopen bus connection. The CANopen bus functionality also offers the ability to connect the propulsion control unit and other bus participants to a Vossloh Kiepe data server.

Using this server it is possible to transmit all data of the event and operating data memory to the central computer located in the respective depot. This data can then easily be evaluated via the Vossloh Kiepe System Diagnostic Program.



Light-rail Vehicles (B Wagon) Cologne

The Kölner Verkehrsbetriebe AG (Cologne Public Transport Services) ordered 84 modern micro-processor controlled EFB 930 propulsion control units for the modernisation of their B100S vehicle fleet. The EFB plug-and-play

devices replaced the original propulsion control units. The refitting of the vehicles was carried out within the framework of the regular BOStrab check-up. (BOStrab = German construction and operation guidelines for trams).



Underground Twin Railcars (GI/1E Vehicle Series) Berlin

In 2003 the Berliner Verkehrsbetriebe (BVG) (Berlin Public Transport Services) issued an order to Vossloh Kiepe for the retrofitting of the propulsion control units of 50 married pair cars, type GI/E. This 1988/89th vehicle series is equipped with

a power contactor controlled DC drive. The original control switching assemblies were replaced by MC drive controls. In addition brake pre-excitation for improving the brake usage was integrated into the drive line.



Underground Twin Railcars (F74, F76 und F79 Vehicle Series) Berlin

Vossloh Kiepe received a modernisation order from the Berliner Verkehrsbetriebe (BVG) (Berlin Public Transport Services) for the drive controls of 91 underground married pair of cars from the F74, F76 and F79 vehicle series.

The core component in the renovation of these underground trains is a new modern MC drive unit which controls the existing camshaft. Serial reconstruction is carried out by BVG staff during regular general inspection.



Underground Twin Railcars (A3L71 Vehicle Series) Berlin

Vossloh Kiepe received a modernisation order from the Berliner Verkehrsbetriebe (BVG) (Berlin Public Transport Services) for a revision of the camshaft assemblies of the BVG A3L71 vehicle series.

During this revision components such as auxiliary cam switches, switching contacts and bearings were exchanged. Furthermore the trip cams and parts of the wiring were renewed where necessary.

Photo: © Christian Much (BVG)



Underground Twin Railcars (Train Type A) Munich

By order of the Munich Underground Vossloh Kiepe refurbished the camshaft assemblies of the A vehicle series.

The refurbishment included the exchange of components such as bearings and auxiliary cam switches and the renewal of trip cams where necessary.