

1905-LOETSCHBERG-1912



Application report

BLS LÖTSCHBERG – PART OF THE NEW RAIL LINK THROUGH THE ALPS

Partner BLS AG
Area Transport and traffic technology

Transport and traffic technology

Monitoring

Alerting

Safety

Partner

BLS connects people, regions and places with a wide range of rail, bus, boat, car transport and freight services and is one of the largest transport companies in Switzerland. The Lötschberg axis with the 34.6-kilometre-long Lötschberg base tunnel and the 60-kilometre-long mountain route from Frutigen to Brig is the best-known section of the line and is one of the most modern railway tunnels in the world.



ComatReleco Products in use

- Time Relays (CSV4)
- Installation Contactors (RIC20)
- PLC & HMI (V570)

From road to rail is a goal that has become even more important in view of the climate discussion. Against this background, and in order to cope with the increasing volume of traffic and passengers, the Lötschberg summit tunnel for the BLS car transport between Kandersteg and Goppenstein is currently being partially upgraded and provided with a concrete floor.

Conversion during operation

Commuters and tourists expect a smooth and available railway service. In order to minimise restrictions, the necessary work was carried out in stages and, wherever possible, during ongoing operations.

The safety of people, vehicles, goods and infrastructure is the focus and is guaranteed by seamless monitoring.

Every train is checked

Optical sensors at the tunnel entrances in Kandersteg and Goppenstein monitor the width of the trains and can reliably detect any excess width of just 1 cm, even at a speed of 100 km/h. Two laser sensors have been installed on each side of the track to monitor the width of the trains. On each side of the track, two laser transmitters were mounted on the ceiling and two laser receivers on the floor in precision work.

Overhangs caused by protruding vehicle parts, tarpaulins or loads that could endanger safety on the construction site interrupt the light barrier and send a signal. To ensure that these very short signals can be reliably detected and passed on, CSV4 timing relays from ComatReleco with a response time of 200 µs were used. The semiconductor output guarantees exact edges, which can be read in and evaluated by a programmable logic controller (PLC).



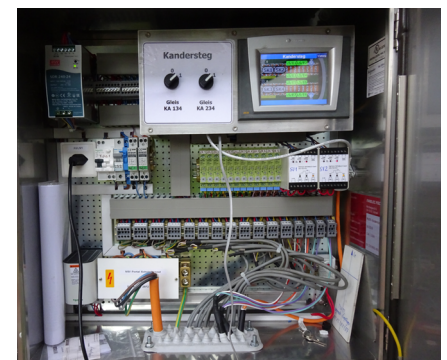
The ballast terrace is replaced by a concrete base. Extra-wide trains would endanger safety on the construction site and must be stopped.

Alarm in case of an event

In the case of a conspicuous event, the locomotive driver is warned by emergency stop lamps and an e-mail with all status changes is sent to the responsible project manager at BLS.

The V570 PLC used with integrated colour touch screen has a wide range of functions, including snap-in modules for inputs and outputs, a memory for recording and logging events on site, an Ethernet interface for e-mail (alarm messages) and remote access.

Every incident is thus documented and recorded in a traceable and unambiguous manner and the safety of travellers, vehicles, workers and goods is guaranteed.



PLC, time relays and installation contactors.

Photos © BLS AG / Mr René Fischer