

## A single-phase UPS in the Swiss Alps

ABB's PowerValue 11 RT is the perfect answer for a Swiss mountain railway



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01 From Thusis, the RhB makes its way through helical tunnels and over viaducts as it climbs the Albula Valley towards St. Moritz. Harmoniously embedded in the landscape, the line is a monument to the pioneering days of railway-building and has UNESCO World Heritage status.

**These operating conditions explain why, when RhB was looking for a 2 kVA UPS for their trains, they came to ABB.**

ABB's PowerValue 11 RT is the perfect answer for RhB: A double-conversion online UPS that guarantees up to 10 kVA of clean, reliable power. The PowerValue 11 RT also conditions incoming power to eliminate spikes, swells, sags, noise and harmonics – ideal for the RhB train environment. The UPS is simple to install and maintain, and its double conversion topology makes it very reliable – an important consideration for trains that travel through the Swiss Alps in the winter time as this is no place for a breakdown.

The PowerValue UPS can operate in temperatures of 0 to 40 °C and is rigorously tested – including a vibration test that ensures the device can withstand rough environments. The UPS can be connected to up to four parallel battery modules for extended runtime and batteries can be added or replaced

In Switzerland, besides the federal railways (SBB), there is a large number of private railway operators. One of the largest is the Rhaetian Railway (RhB), which operates most of the lines in the canton of Grisons (Graubünden). In this part of Switzerland, the rugged terrain and harsh environmental conditions test rolling stock to the limit. As ABB's Moreno Paoli explains, "one of the RhB lines, the Bernina Railway, crosses the Bernina Pass, which, at an altitude of 2,253 m can be very cold in midwinter! Added to that, the train carriages and the equipment they contain are subject to quite an amount of vibration."

easily. The compact design of the PowerValue means it takes up little of the limited space available on a train. Good personal contacts and an efficient service response proved to be a key element in winning this order. Mr. Lüthi of RhB says, "we were very satisfied with the product, support and contact at ABB. Previous cooperation with ABB had also been very good. For me, it is particularly important that we always have the same competent ABB staff at our disposal who knows the equipment history and can suggest preventive maintenance measures."

The PowerValue UPS is being used in a railway wagon that has been converted to measure the wireless coverage of various providers - Polycom, UKW, DAB+ - as well as RhB's train radio communications network. Should the wagon's diesel generator drop out for any reason, the PowerValue will take over and supply power to the measurement infrastructure. The PowerValue UPS is now being accepted into RhB's portfolio of approved standard products.

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ABB Power Protection SA  
Via Luserte Sud 9  
6572 Quartino, Switzerland

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