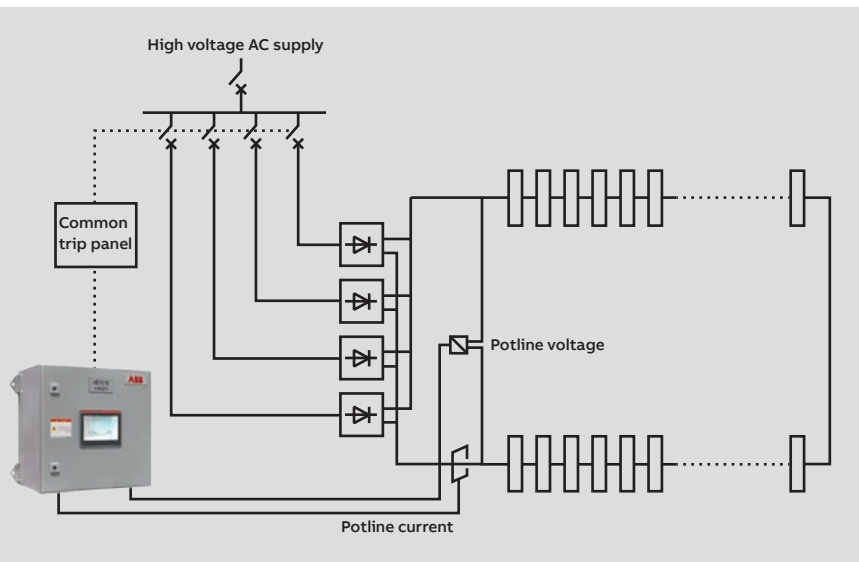


PRODUCT LEAFLET

# Potline OCP

## Potline Open Circuit Protection



The Potline Open Circuit Monitoring is a unique monitoring system from ABB to measure the potential open circuit or actual open circuit in Aluminium Smelters.

The system is continuously checking the condition of the Potline circuit, using the actual current and actual voltage values.

The system offers different monitoring possibilities, including the traditional Voltage >level.AND. Current < level, newly jump in voltage or drop in current compared with a delayed value of the signal, jump of calculated resistance compared to a delayed value or the rate of rise of the calculated resistance.

Electrolysis plants are vulnerable to open circuits developing due to pot leakage, uncontrolled anode raising, wrong tapping procedure, busbar failure or wedge overheating.

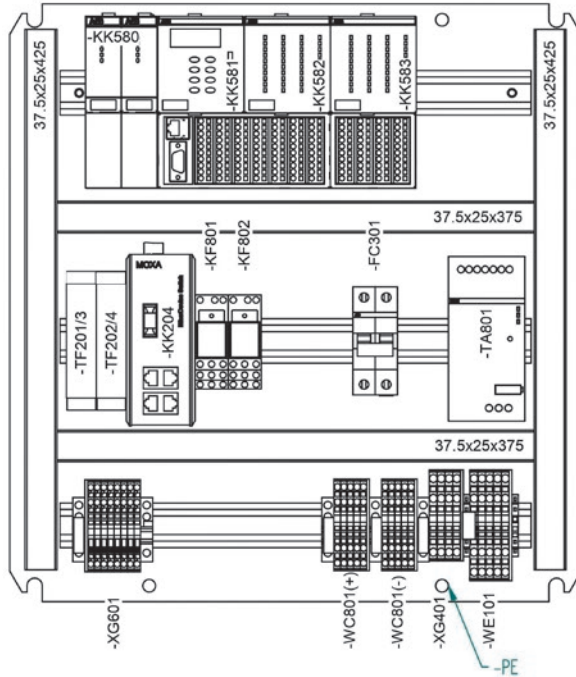
The fault is difficult to detect reliably and could be catastrophic, endangering humans and equipment.

### Metering principle

The Potline current and voltage signals must come to the OCP system as un-delayed as possible for the best results.

Signal monitoring and calculation in 1ms task. Derivative calculation and protection in 5 ms task. Other protection in 50 ms task.

## Mounting plate



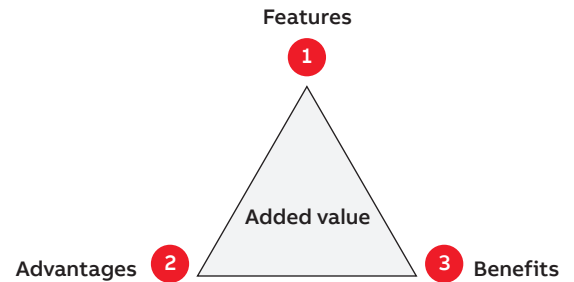
The total Potline OCP equipment is installed in a metal enclosed cubicle (AxBxCmm).

### 1. Main features

- Monitoring of circuit condition with different detection capabilities
- Transient recorder with 1.2 ms sampling rate to capture Voltage, Current, Resistance and Resistance derivative during an incident, 20 seconds pre-trigger and 60 seconds post trigger information. Included is software to visualize such a captured event, save/print or export it as a .csv file.
- 2 adjustable trip levels with potential free change over contacts
- Local indication of actual values on process panel mounted in the cubicle
- Local setup of the signals and protection functions.
- Integrated Potline simulator to test protection settings.

### 2. Advantages and benefits

- Standalone system
- Very wide measuring range
- Very easy installation and commissioning
- Availability of high-resolution data if an incident occurred.
- Wide range of Protection to select from.
- Independent, standalone monitoring of Potline circuit condition.
- Fast and easy installation without any shutdown requirement



### Technical data

Input power supply	110...230 V AC/DC for control
System output	Redundant trip contacts
Metering range	Any Potline voltage or current
Controller type	AC500
Local HMI type	Process panel PP635
Mounting	Indoor/wall mounting
Standard	IEC 60204-1

For more information please contact:

ABB Switzerland Ltd  
Local Business Line Process Industries  
Segelhofstrasse 1K  
CH-5405 Baden-Dättwil, Switzerland  
Phone: +41 (0)58 589 39 39  
E-Mail: [ch-high-power-rectifiers@abb.com](mailto:ch-high-power-rectifiers@abb.com)

[www.abb.com/rectifiers](http://www.abb.com/rectifiers)

Note:  
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of

information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents in whole or in parts – is forbidden without prior written consent of ABB AG.  
© Copyright 2024 ABB. All rights reserved.