

# Current Monitoring System - Aluminum

The Aluminum Industry is constantly striving for:

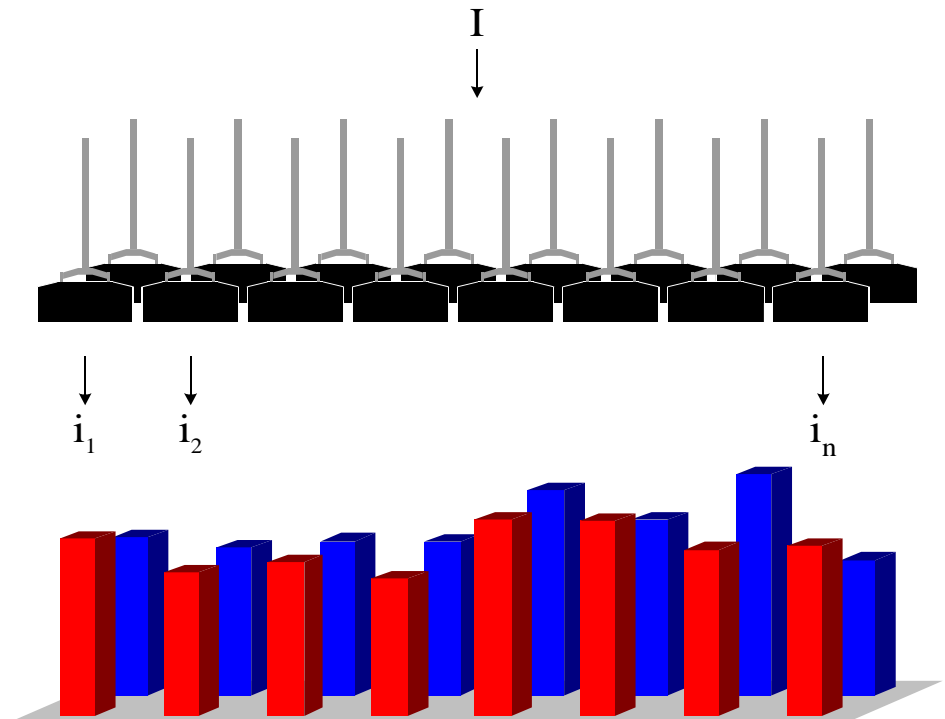
- Energy savings
- Higher current efficiencies
- Raw material savings
- Reduced metal inventory

In existing smelters, optimization has been made using the process information available, namely cell voltage and pot line current. However, further optimization is challenging, as it is impossible to determine the dynamics in a pot given that voltage is the sole variable available specific to the pot. As a result, various attempts have been made to monitor the currents carried by individual stems.

Universal Dynamics' current monitoring system eliminates the inherent shortcomings of conventional millivolt taps.

## Features

- Hall effect sensors requiring no electrical contact with current carrying anodes or cathodes
- Real time display
- Real time and historical trending
- Detection and alarming of operational anomalies
- Retrieval of historical data for:
  - Delayed or accelerated replay
  - Detailed data analysis
  - Trending



- Radio, fiber optics, or direct connection with display
- Designed for pot room environment
- Temperature compensated and operational to 150°C
- Tie-in with existing control systems
- Detection of cell instabilities with strategy for elimination
- Optimize alumina feed control interval and location
- Analysis of "sick" pots
- Installation without potline shutdown
- Control of pot baking

## Benefits

- Better understanding of cell dynamics
- Effective isolation with cell voltage
- Optimization of anode-cathode gap

As an analysis tool, the current monitoring system has provided a fresh view to pot dynamics and efficacy of long established operational procedures on the stability of the pot. Our system is readily adaptable for tying into existing alarm and control systems.



Universal Dynamics Limited  
#100 - 13700 International Place  
Richmond, BC V6V 2X8  
CANADA

Phone: 604 214 9248  
Fax: 604 214 9249  
E-mail: sales@udl.com

Patented

THE BUSINESS OF UNIVERSAL DYNAMICS IS PRODUCTIVITY IMPROVEMENT