



Elevator brake controller from OTEC make travel safe. High voltage multi-phase PWM control of inductive loads is the essence of proper energy-managed control.



*Save energy and be space efficient. OTEC's high voltage brake controller did just that and more. Thanks, OTEC.*

*- President/CEO*

## High Voltage Inductive Load PWM Control

The control of high voltage inductive loads requires careful design discipline. Multiphase 240 VAC control of inductive loads presents a number of challenges. Current and voltage switching transients together with efficient circuitry cooling and heat management are essential design elements.

## LPC11 Class ARM Cortex-M Microcontroller

PWM control of high voltage inductive loads is supervised by an NXP LPC11 class ARM Cortex-M class microcontroller. PWM generation, current monitoring, voltage monitoring, set point programming, remote communications and switching time supervision are all part of the activities of the ARM Cortex-M microcontroller.

## High Voltage Multiphase FET Array Design

High voltage field effect transistors (FET) from ST Microelectronics together with high voltage drive circuitry makes this design possible. Today's high-voltage field effect transistors (FET) from ST Microelectronics, together with high-voltage drive circuitry make operation to 600 volts possible. Proper design de-rating achieves high reliability at the actual operating point.

## Triple Phase Delta Connected Inductive Load

Highly inductive, elevator brake devices present a triple phase delta connected load to the controller. With inductances in the hundreds of millihenries, current and voltage transients must be carefully considered.

## RS422 Serial Communications

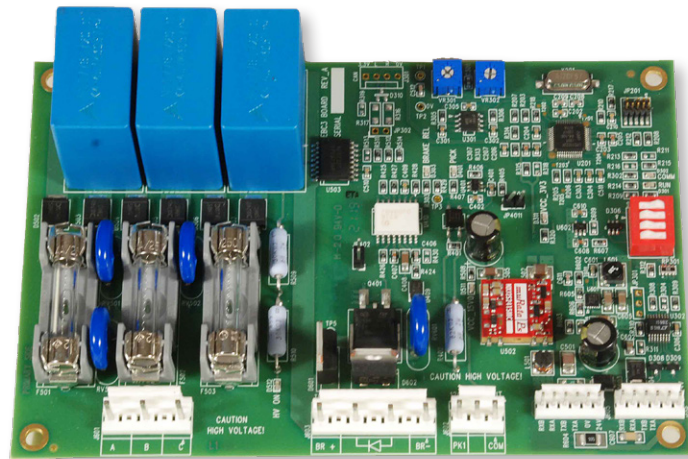
High speed, full duplex RS422 Serial Communications makes this controller flexible to install. Low wire count RS422 communication is robust in harsh environments.

## OTEC's Real-time Operating System

Running OTEC's proprietary non-preemptive real time operating system, data acquisition and processing are accomplished in real time. Small and efficient, OTEC's proprietary non-preemptive real time operating system securely performs safety-critical tasks.

## Orchid Technologies: High Voltage Control

The development of custom electronic products for our OEM clients is OTEC's entire business. The design of high voltage PWM controllers with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!



**ORCHID TECHNOLOGIES  
ENGINEERING & CONSULTING, INC.**

**Custom Engineering From Concept to Production**

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