



CASE STUDY

Power and Energy: Compact Size Three-Phase Control

THE CHALLENGE

Create an electrical power utility control to monitor sensors for a three-phase distribution bus that fits in the mechanical package of an existing single-phase control, leverage the extensive legacy firmware functionality, and add harmonics monitoring.

THE SOLUTION

Analog Devices integrated polyphase multifunction energy metering IC with harmonic monitoring and a microcontroller.



“Tecnova’s considerable expertise in electrical power utility product applications, embedded control solutions, and electronic contract manufacturing is a rare combination.”

THE SUMMARY

Electrical power utility companies deploy controls at strategic points throughout the electrical distribution grid to monitor loading conditions and generation capacity and stability. The branches of the power distribution grids that are the closest to the loads are where conditions are the most dynamic and are the most numerous but are frequently space-constrained. Historically, electrical power utility controls have been either smaller physical package devices that only monitor a single-phase distribution bus or larger physical package devices that monitor a three-phase distribution bus.

Tecnova designed an electrical power utility control for monitoring a three-phase

distribution bus that fits within the same physical package as a single-phase control. The compact size three-phase control solution utilizes a recently developed solution from Analog Devices, a single metering IC that monitors sensing of voltage and current on a three-phase system and, in addition to reporting simple RMS parameters for voltage, current and power, also provides reporting of harmonics and waveform capture.

In addition to unmatched embedded control expertise, Tecnova engineers have extensive experience designing numerous monitoring and control devices that are in use throughout the world in the delivery of safe, stable, and affordable

electrical power to millions of residential and industrial electrical power consumers. The compact size three-phase control solution was made possible by combining the use of the metering IC from Analog Devices, that packs all of the powerful sensing and reporting capabilities into a single IC, with the decades of Tecnova experience and expertise in the design of electrical power utility controls.

The compact size three-phase control solution offers an uncompromising solution of functionality and minimal device dimensions that allows electrical power utilities to more elegantly augment the existing monitoring and control of electrical power distribution networks.

EXPERT SOLUTIONS, START TO FINISH

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