

# Are You Ready for Rapid Changes in Power and Response?



## HOW ISOCHRONOUS LOAD SHARING WORKS FOR FT8® AND FT4000® GAS TURBINE UNITS

In an isochronous load sharing scheme, the distributed controllers are typically connected in an island. The distributed controllers exchange information and regulate the generators to maintain frequency during load unbalances. Using a common communications backbone, the governors for the participating generators within a plant are placed in isochronous mode on a common bus. The generators are able to pick up or reject loads quickly to maintain a constant frequency. An isochronous load sharing application can be used for islanded or grid connected sites, allowing for rapid changes in power and response, and helping to stabilize the grid.

The Real Time Automation Controller (RTAC) controls share real power among the units.

- The RTAC dynamically calculates the bias set points for each generator governor.
- The regulation at each unit is performed by biasing the governor. This bias signal is summed with the speed reference of the governor control.
- The response to the bias signal is determined by a proportional-integral-derivative (PID) control that exists within the MicroNet™ control for each unit.

## CUSTOMER VALUE

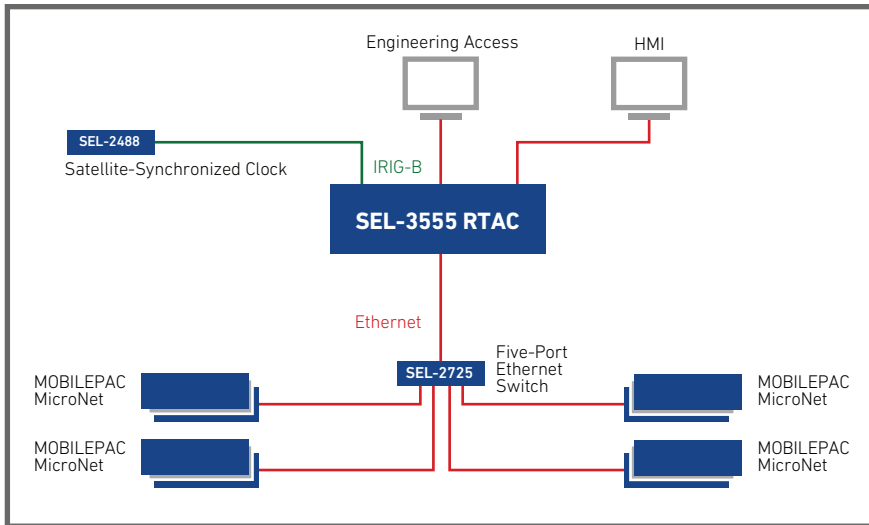
- Better power quality
- Lower equipment life cycle costs
- Higher reliability
- Improved customer satisfaction

## FUTURE INSTALLATIONS

The Real Time Automation Controller (RTAC) is a powerful remote terminal unit (RTU) that can also be used as a SCADA interface providing:

- Telemetry
- Automatic Generation Control (AGC)
- Substation Automation/Control

In isochronous load sharing mode, all of the FT8® MOBILEPAC® gas turbine units are set to isochronous mode. Using the RTAC each FT8 MOBILEPAC unit exchanges information to regulate the generators to maintain frequency during load unbalances. This technique can be used at any location where a customer needs to have a stable means to coordinate the control of multiple and diverse power sources. It's also an ideal way to help stabilize grids that depend on volatile renewable sources with gas turbine back-up.



### ISOCHRONOUS LOAD SHARING

Basic architecture for load sharing among multiple FT8® MOBILEPAC® gas turbine units

### ACTUAL INSTALLATION

