

## Data Logger for Refrigerator Testing

**Industry: Appliance**  
**Product: MW100, PR300, GA10**

### Introduction

Appliance testing typically require 100% quality check prior to shipping. Early life cycle test and outgoing quality check is instrumental in measuring the product's power consumption, heat dissipation, cabin temperature and safety. The test parameters must be logged and analyzed to ensure the product performs to the quality standards.

### Application

A refrigerator unit under test goes through a series of parameter testing such as, but not limited to, refrigerator cabinet temperature, compressor amperage, suction & discharge and voltage/wattage consumption. The data logger must have a temperature accuracy range of  $\pm 0.8^{\circ}\text{C}$  and accommodate 30 individual refrigerator units. In addition, end users must have access to the data logger test values remotely via a network connection so analysis can be performed to ensure the refrigerator conforms to quality requirements

### Solution

A major refrigerator manufacture is realizing the benefits of measuring accurate and precise test data for their refrigerator quality assurance. A total of 3 MW100 systems were utilized for the quality test. The PR300 power analyzer and power transducer were used to determine the energy consumption. 2 MW100 data loggers were used to gather

temperature and the last MW100 data logger was used to gather data from the PR300 and power transducers. Additionally, the GA10 data logging software was deployed to view live and historic data from the 3 MW100 data loggers.

Overall, the system features the following advantages:

- Web Based, Plug & Play, Open System Expandable & Modular Architecture will help to connect more no: of refrigerators data at one time and monitor the data of all in one platform
- GA10 data logging software to remotely view and analyze live/historical parameter values
- Industrial Grade  $-20$  to  $+60^{\circ}\text{C}$  continuous will help to work in the harsh environmental operating conditions
- Input Isolation of 600Vac continuous (3700Vac for 1min) makes the accurate and reliable measurements which will mark the quality of product
- Noise Rejection of CMRR 120dB & CMV=600Vac will reduce the unwanted noise pick up of power surges, and surrounding fields
- Thus achieving the End to End Accuracy of Temp:  $\pm 0.8^{\circ}\text{C}$  for Temp,  $\pm 0.5$  for Energy

