

MIC QKL e3 Electronic Refrigeration Control System

System Summary

The MIC QKL e3 is a self-optimizing electronic refrigeration control system that utilizes advanced real-time expert system software algorithms to manage the entire refrigeration process, including defrost detection, defrost management, compressor management, evaporator fan management and fault management. The controller's adaptive fan management system incorporates patented "latent heat" control, which substantially reduces temperature variations within the refrigeration plant and increases relative air humidity by up to 10%, while minimizing compressor, fan and defrost cycling.



The MIC QKL e3 is networkable, with the optional MIC QKL LON Transceiver, which allows the refrigeration control system to manage all components as a "zone", where controllers within the "zone" coordinate all refrigeration processes to insure the integrity of refrigerated goods, while reducing energy consumption. The LON Transceiver also enables the control system to transmit and receive refrigeration performance data and control instructions to/from the optional QKL EEC Refrigeration Data Network System and other compatible LonMark®-certified devices and systems.



System Benefits

As a result, users will realize:

- **Up to 40% reduction in refrigeration energy consumption**
- **Up to 70% reduction in product spoilage**
- **Up to 15% increase in refrigeration cooling capacity**
- **Extended operating life of all refrigeration system components**
- **Reduced labor associated with maintaining optimum refrigeration operating conditions**

The MIC QKL e3 provide all of these benefits utilizing your ***existing*** refrigerator components: there's no need to install proprietary expansion valves or complex variable speed fans!

Technical Specifications

Setpoint temperature adjustment range	-58 to 121 °F, in increments of 0.1 K/0.5°R
Control accuracy	± 0.3K / 0.7 °R from setpoint
Supply voltage	AC/DC 24 V +10%/-15%, 4.8 VA 50...60Hz
Ambient temperatures	In operation -4 to 122 °F
LED display	7-segment display with 7 function messages
Measurement range	-76 °F to 140 °F
Resolution	0.1 K / 0.5 °R
Sensors	2 x MIC Sensor Pt1000 for three-wire measurement technique
Inputs	2 digital inputs, contact current < 2 mA
Outputs	4 relays, 3 NO contact, 1 changeover switch, max. switching capacity 8(3) A 250 VAC