Connectivity with i.Series® Devices

Designed to improve staff efficiency, increase equipment uptime, and support regulatory compliance through integrations with third-party monitoring and automation software.

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Helmer Scientific i.Series® equipment enables networking connectivity. Through direct data integration, Helmer Scientific devices can enable facility, clinical, and operational staff complete access to system information.* Device data can be integrated into existing monitoring platforms, including continuous monitoring systems and Building Automation Systems (BAS) that support the i.Series® Ethernet API or Modbus TCP Ethernet connectivity

Why integrate Helmer Scientific equipment with Monitoring or Automation Systems?

- **Access robust device data beyond just temperature or alarms.** Helmer Ethernet connectivity makes additional data available, including door status and refrigeration system data, to support more efficient remote diagnostics and deployment of resources.

- **Eliminate additional third-party hardware and extra probes.** Third-party monitoring systems commonly require unique temperature probes and simulators that require separate maintenance, calibration, and management. This extra hardware is not needed when using Helmer Ethernet connectivity.

- **Ensure consistency between temperature display and data used for monitoring and compliance programs.** Temperature mismatches between monitoring systems and equipment displays are possible due to calibration or monitoring location inconsistencies. i.Series® Ethernet connectivity ensures data communicated to monitoring or automation software matches what is displayed to users on the cold storage equipment controller.

Connectivity can support improvements to cold storage fleet management:

» **Increase staff efficiency** with complete system information that helps ensure appropriate deployment of clinical and service resources.

» **Maximize equipment uptime** through remote diagnostics which may increase the speed of troubleshooting and repairs, and help diagnose potential issues prior to out-of-temperature alarms.

» **Support regulatory compliance** by ensuring monitoring software includes temperature and alarm information sourced from the equipment's monitoring probe and software.

IMPLEMENTATION SUPPORT

Helmer Scientific is ready to help support you! We have technical support resources available to help answer questions related to using i.Series® Ethernet connectivity with third-party software solutions, configuring i.Series® units to use Ethernet connectivity, or other questions from facility IT departments or other technical users. Please visit helmerinc.com/connectivity for more information.

*Please refer to your Helmer Scientific operators manual to determine if your i.Series® equipment includes Ethernet/RJ45 and enables connectivity.

Helmer Scientific Standard API

The Helmer Scientific Standard API exposes several interfaces to network clients as RESTful Web Service endpoints via Ethernet/RJ45 connections. This application programming interface allows users to query the device (Query / Response Service) or configure the device to push data to an external network endpoint (Broadcast Service).

Information exchanged between the Helmer Scientific device and the network client or server includes, but is not limited to, the following data attributes:

- Real-time system status: Temperature, alarms, door status, and refrigeration parameters to provide data around systems performance and to allow for improved remote diagnostics if the unit is in an alarm condition.
- Device-specific identification data: Unit, model, and serial number; device type; and software versions to support quality reporting requirements and allow for improved asset management and tracking across locations.
- Electronic exterior door lock control: When Access Control is installed, API may be used to lock and unlock the exterior door via software to better secure and manage inventory.
- Historical event data: Electronic reporting on temperature, alarm, door access, and other events can support data requirements needed for audits or maintenance support.

Modbus TCP/IP (Modbus-TCP)

Network enabled Helmer Scientific devices also allow network clients to interface with the device utilizing the Modbus TCP/IP protocol. Utilizing this standard (vendor-neutral) protocol allows Helmer Scientific devices to be integrated into various automated, building control, and remote monitoring applications.

Data attributes that can be accessed via the Modbus TCP/IP API include the following:

- Temperature probe readings
- Probe calibration data
- Temperature control / alarm set-points
- Active alarms or alerts
- AC / battery voltage readings
- Door state
- Compressor state / speed

Security

Helmer Scientific i.Series® equipment is designed with security in mind. The following features help safeguard data:

- SSL/TLS encrypted data exchange for eavesdropping/tamper protection
- User-configurable authentication password for client API access
- User-configurable network port and IP address
- Digitally signed firmware updates
- No PHI or patient specific data can be stored or accessed from a Helmer Scientific device