

Thermal Gas *Systems* inc.

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Haloguard® and Haloguard IR® Monitors

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Haloguard Refrigerant Monitor Start-up - General Information

Start-Up - General Info

Generally, refrigerant monitor start-ups are low key affairs. As the instrument will have been running without problems for days, if not weeks, prior to the "formal" start-up event, the true objective in the start-up phase is to demonstrate (and document) that the monitor and sensors were installed properly and that it is programmed correctly. Additionally, by using the on-board "Test" functionality, you will demonstrate (and document) that all signal output (analog or dry contact relays) are working properly, and that any devices connected to them engage properly at the programmed alarm set points, and if applicable, correctly read the analog output signals from the monitor. Review the attached checklist for steps to follow in performing this demonstration. Complete the checklist during the start-up service and leave a copy with the end-user.

Ideally, you should schedule a dry run of the start-up check prior to having the customer present, and a day or so before the actual start-up "ceremony". By doing the dry run early, you will have time to identify and correct any problems with remote devices, etc., which may need to be addressed by another trade. You will want to test the signal output and gas response at that time, so give yourself at least an hour or so on-site to dry-run the process.

Gas Test/Response Demonstrations

Generally, if required to show the monitor's response to the refrigerant of interest, my recommendation always is to release some pure refrigerant (obtained from the chiller stores, or from the Mechanical Contractor) into a plastic garbage bag and tie it off over one of the sensing sample points. This will cause an "off-scale" (>1000 ppm) response and will demonstrate that all programmed alarms engage properly. A factory calibration sticker is located inside the instrument cover that certifies the instrument has been calibrated. A hard copy calibration certificate is available upon request.

If required to use calibrated gas under controlled conditions to demonstrate monitor response by the customer or a third party, we can send a loaner gas test kit that contains calibrated refrigerant gas with testing instructions that can be used for that purpose. A nominal amount is charged to cover Hazmat shipping fees and the cost of the non-returnable gas cylinder.

User Training

For any required User Training, review the attached generic training syllabus and marked-up I&O manual for topics that should be covered with the customer (high-lighted text). Also attached, is the instrument specific manual with model and serial number filled in. Leave several copies with the customer, they always appreciate that. Also, show them that one copy is always stored inside the instrument cover.

We are always available by phone to walk you through any difficulties while you are becoming familiar with the instrument or performing any actual demonstrations. Just let me know ahead of time, and I'll make sure our Senior Design Engineer is here or on call. His name is Steve Morgan and he's always happy to help explain how to set up the instrument or walk you through any difficulties you may encounter while testing or demonstrating.

Let me know if we can be of additional assistance.

Best Regards,

Jay West
General Manager