TC-5.6.2 VRV Commissioning Exercise (Student)

Student Version: This exercise is designed to recreate a “real world” scenario when commissioning a VRV system. Common installation errors have been placed in the system to prepare technicians for the challenges of startup.

Objective:

- Follow the 10 step procedure for commissioning.
- Verify the wiring from outdoor to branch box, then to fan coils.
- Verify dip switches and field settings in the equipment.
- Complete the system commissioning.

- Building requirements specifications:
    - All controllers to be controlled from local sensor on navigation BRC1E73.
    - Building will incorporate a building management system (BMS) and owner requires the navigation sensor be reported as room space temperature.
    - When thermally satisfied in cooling and in heating, indoor fan required to stay in LL speed.
    - Display navigation sensor as room temperature on local controller.
    - Simple display to be used on local controller with room temperature displayed.
    - If multiple fan coils are controlled by a single controller, program group to operate together.
    - Any third party condensation management at fan coils will be programmed to shut equipment down on detection of a failure.

- Time allotted for this exercise will vary from class to class and management of time will be the discretion of the instructor.

10 step procedure for commissioning

1. Power up all indoor units (BS boxes also if HR)
2. Power up outdoor unit(s) to energize crankcase heaters (minimum 6 hrs.)
    - Initialization sequence starts and the system addresses are set
    - Setup & configure all Navigation Remote Controllers
3. Count indoor units to confirm communications(BS boxes also if HR)
4. Selected field settings programmed at ODU and Remote Controllers
    - (Static Pressure settings, etc.)
5. System refrigerant charge – 'Manual' charge using the 'Additional Refrigerant Charge Mode'
6. Test Operation Mode
7. Configure the remote controller changeover Master
8. Set field settings in the outdoor unit when applicable
9. Set any additional remote controller field settings
10. Verify system operation in cool & heat mode as outside ambient temperature conditions allow (Heat mode is prohibited above 82.4°F outside air temperature)