



# Installation, Testing & Unit Commissioning



Visit us at [www.mcscontrols.com](http://www.mcscontrols.com)

## ◆ Installation

- **Mount equipment in Dry Location**
- **Avoid mounting in front of high voltage**
- **Avoid mounting in area with Frequency Drive**
- **High voltage wiring should be keep separate from low voltage**
- **All wiring to sensor inputs must be shielded**

## ◆ Installation

- Low voltage shielded cable run perpendicular to high voltage
- Allow adequate room each side to run wiring
- Avoid splicing shielded cable if possible
- **IMPORTANT - PROVIDE A GOOD EARTH GROUND**

## ◆ Installation

- **If you have to splice a shielded cable, do the following:**
  - **Splice in an area where there is no high voltage within 3 feet**
  - **Splice in a dry area**
  - **Splice all wires, including drain lead (solder or butt connect)  
Foil shield does not need to be connected  
Tape all individual connections and then final over all**

## ◆ Testing (Relay Outputs)

- Main power to compressors / condenser off
- Control power to micro, contactors & solenoids on
- Keypad / Display or PC-Connect, Get authorized
- Put each RO in MANUAL ON and verify correct
- Put back in AUTO

## ◆ Testing (Digital Sensor Inputs)

- Turn on & off flow & verify sensor input correct
- Turn on & off RUN/STOP, Emergency stop, pump down (x)
- Put other digital inputs in manual on or off to verify results
- Check proper response, RUN/STOP/ YES/NO or ON/OFF

## ◆ Testing (Analog Outputs)

- Put in manual
- Set at 25%, 50%, 75% & 100% & verify
- Set back to 0%
- Set back in 'AUTO'

## ◆ Testing (Analog Sensor Inputs)

- Verify all analog sensor input values within reason
  - Entering & Leaving liquid about same (Room temperature)
  - Suction & discharge psi about same, if equalized
  - Amp sensors at zero
  - Humidity based on location & weather conditions

## ◆ Unit Commissioning (Factory / Site)

- Verify all relay/analog outputs & sensor inputs are in 'AUTO'
- Clear Alarms & Points
- Verify set point values  
(Target, FLA, suct, disc, oil, condenser, etc)
- Clear lockouts
- Turn on main power

## ◆ Unit Commissioning (Factory / Site)

- Make sure RUN/STOP in RUN
- Make sure FLOW is on.
- If ctl temp/psi > than target + control zone+, unit will start to load
- Control Status will reflect current state of package & circuits

## ◆ Unit Commissioning (Factory / Site)

- Set transducer offsets at running pressures
- Verify operation
- If screw verify load & unload pulse
- If screw verify amp  $\pm$  values to make sure balance between load unload pulse and amp dead band does not allow hunting
- When complete clear alarms & points