



# APPLICATION NOTE

## APP #133

### Revision History

Date	Author	Description
02-25-19	DEW	Setup

### MCS-MAGNUM Version 17.56 or higher

#### REQUIREMENTS

- Recommend latest MCS-Connect software
- Recommend latest MCS-Config software
- Older V14 configs can easily be converted using MCS-Config to convert V14 to V17 config.

## Screw Compressor Stepless Pulsed Slide Control

A new safety unloading logic option has been added for Screw compressor with pulsed stepless slide control into MCS-Magnum HVAC firmware only. **HVAC Firmware version 17.56** and greater support this new feature. No changes to MCS-Connect or MCS-Config programs are required to support this new logic feature.

In the existing MCS-Magnum firmware the logic for stepless screw compressor safety unloading pulses ON for 0.5 seconds the unloader solenoid relay every second.

In the new firmware the safety unloading logic remains the same unless in the configuration for the MCS-Magnum setpoint #56 "PULSE DELAY" is setup as a "Target" type.

By making setpoint #56 a "Target" type it activates user control of the safety unloading pulsing. The High Zone field of setpoint #56 defines the safety unloading ON time for the unload solenoid. The Low Zone field defines the cycle delay.

Hanbell is recommending a value of 2 seconds (high zone = 2) for pulsed ON time for safety unload and delay of 5 seconds (low zone= 5) between pulses. This will provide a 2 seconds ON, 3 second OFF, 2 seconds on, 3 seconds off pulse cycle for the unloader solenoid during a safety unloading condition.

***See next page showing the actual setup for setting setpoint #56 as a Target type.***

Any questions regarding this release, contact: [support@mcscontrols.com](mailto:support@mcscontrols.com)

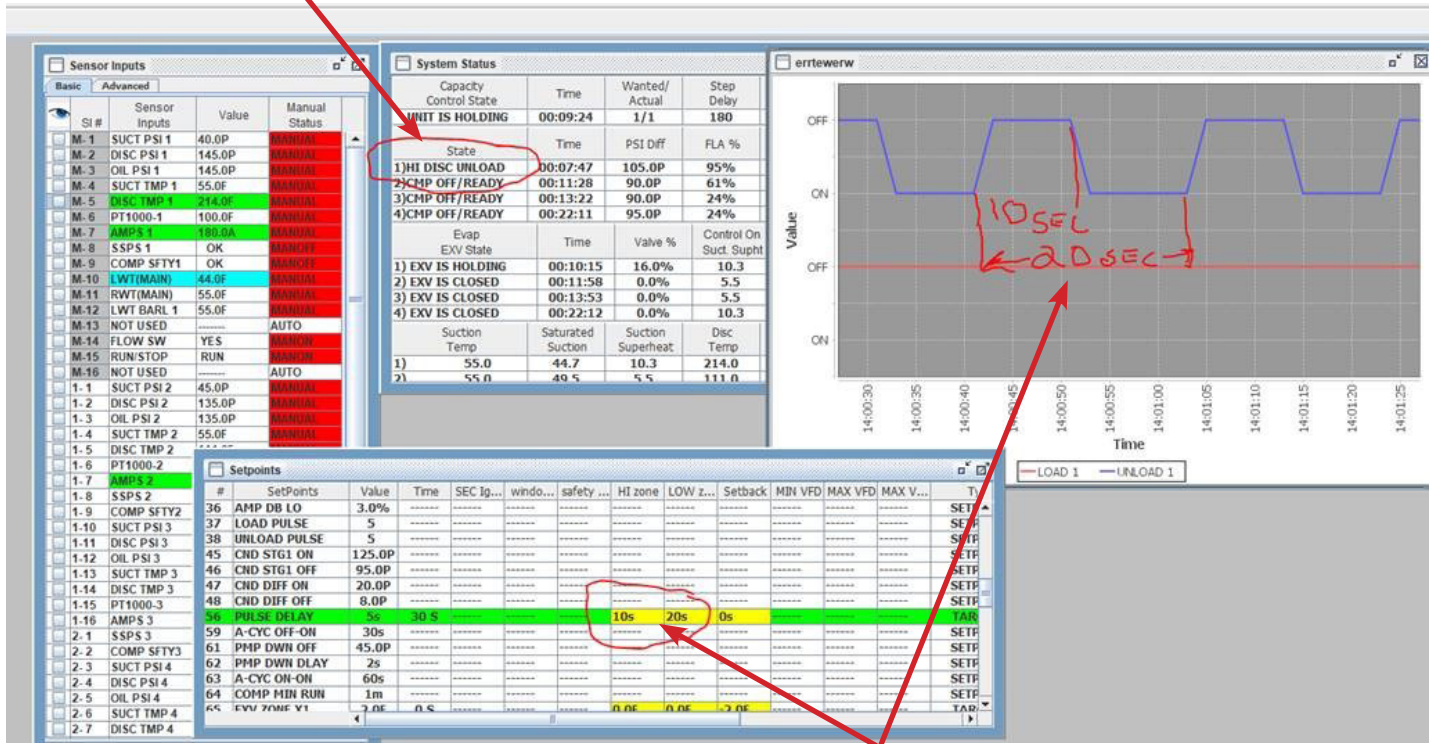
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### HVAC Version 17.56 and higher

The MCS-MAGNUM firmware has been modified to allow the config to define the safety unloading pulse on time and delay between pulse.

Below setup shows **10 second pulse on time and 20 second delay between pulses** for the safety unloading. Comp #1 is in "Hi Disc Unload", which is where the pulsing every second would happen before.



But since the config is setup for different safety unload, 10 second on pulse and 20 second delay between pulse (setpoint #56 hi zone and low zone values) the logic is now pulsing very slowly.

The user can define the safety unloading pulse time.