



## Understanding the MCS-8 Chiller Keypad & Display



## Keypad / Display

### ◆ Keypad

- Single function
- Get same information from multiple keys
- Press same key for additional information
- Hold key down, after 4 seconds runs 4 x faster

### ◆ Display

- 2 X 16 larger character backlit display
- Designed to provide service personnel meter / gauge

## Display Status

### ◆ **COMPRESSOR STATUS**

- (Comp, Unld's, Load, Unld, StrtUnld, LLS, HGB, Liq Inj)

### ◆ **CONDENSER STATUS**

- (Fans, Pumps, Valves)

### ◆ **EVAPORATOR STATUS**

- (Ent Liq, Lev Liq, Supply air, Suction psi)

## Display Status (continued)

### ◆ ***ALARM STATUS***

- Machine stores last 60 alarms
- Most current alarm / lockout 1st
- Numbered / Date & Time stamped
- Descriptive alarm information
- Can scroll with + or - keys

## Display Status (continued)

### ◆ ***SYSTEM PRESSURES***

- Suct psi, Disc psi, Oil Diff, Amps,  
(Oil Diff & Amps if available)
- Suct, Saturated Suct, Suct Superheat  
(if suction temperature & psi available)
- Disc, Saturated Disc, Disc Superheat  
(if discharge temperature & psi available)

## Display Status (continued)

### ◆ ***SYSTEM SENSORS***

- Temperature sensors
- Digital sensors

### ◆ ***ADDITIONAL STATUS***

- Total run hours by relay output
- Total starts by relay output

## Display Status (continued)

### ◆ ***LOCKOUT STATUS***

- Lockouts only
- Subset of alarms
- Provides 'SYSTEM PRESSURE' key data

(press 'ENTER' key)

## ENTRY

### ◆ ***SERVICE DIAGNOSTICS***

- Control Status
- Authorization
- Sensor Offsets
- Clear Alarm History
- Clear Point Information
- Unit Information

## At CONTROL STATUS press ENTER (CHILLER STATE)

UNIT IS HOLDING  
TIMER=00:41:09

State of chiller package

Time package has been in this state

STEP DELAY=180  
RATE OF CHG+0.0

Integration accumulator (set pt.)

Slope of control sensor

*Example is for single screw compressor*

**At CONTROL STATUS press ENTER 2nd time  
(CHILLER STATE continued)**

STEPS WANTED= 1  
ACTUAL STEPS= 1

Steps of package wanted on

Actual number steps on

SLIDE WANTED= 45

Slide % FLA wanted for package

*Example is for single screw compressor*

**At CONTROL STATUS press ENTER 3rd time  
(CIRCUIT STATE)**

1←CMP IS HOLDING  
46%FLA 00:56:48

Comp state by circuit (←) lead

Actual % full load amps & time

*Example is for single screw compressor*

## *Authorization*

### Under Service Diagnostic Key

- Press '**SERVICE DIAGNOSTIC**' key until following appears, then press '**ENTER**'. The following display appears:

```
AUTHORIZATION  
ENTER CHG/OPTION
```

- Now enter a proper 4 digit factory authorization code and then press the '**ENTER**' key. If a correct authorization code has been entered the following display occurs:

```
AUTH= FACTORY  
SEL NEXT OPTION
```

- If an incorrect factory authorization number has been entered the following display occurs:

```
AUTH # INVALID  
SEL NEXT OPTION
```

## ENTRY (continued)

### ◆ **SETPOINTS**

- 120 unique set points
- 12 character names
- Numbered for easy location
- Increment value set in PC-Config (.1, .5, 1.0 etc.)
- Upper / Lower limits set in PC-Config
- MCS-8 Display based on Authorization

## Under Setpoint Key

```
# 1 LEV LIQ TARG  
ENTR CHG + 50.0F  
(50.0F is current  
leaving liquid setpoint)
```

- Pressing ENTER ->

```
# 1 LEV LIQ TARG  
ENTR +/- +50.0F
```

- Pressing the + or - key now increases or decreases the setpoint value. When you have reached the value desired press ENTER KEY to make change. The following message is displayed, where 49.5 is the new value.

```
# 1 LEV LIQ TARG  
CHG MADE + 49.5F
```

## ENTRY (continued)

### ◆ *MANUAL*

- Relay Outputs
- Analog Outputs

## Under Manual Key

RELAY OUTs MANAL ENTER CHG/OPTI ON	<ul style="list-style-type: none"><li>- Pressing ENTER -&gt; FAN OFF ENTER CHG/OPTI ON</li> <li>- Pressing ENTER -&gt; FAN AUTO ENTER OR +-  - Pressing the + or - key now allows the selection of MANON, MANOFF or AUTO. When you have reached the desired state press ENTER KEY to make change. The following message is displayed if the state selected was MANON, FAN MANON CHG MADE/NXT-SEL</li></ul>
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## **ENTRY (continued)**

### ◆ ***LOCKOUT RESET***

- Lockout Reset Prompt

### ◆ ***PROGRAM OPTIONS***

- Date Display
- Time Display
- Date & Time set
- Day of Week set
- Operating Schedules
- Holiday Schedules

## Under Program Key

DATE & TIME SET  
ENTER CHG/OPTION

- Pressing ENTER -> SEP 17, 96 20: 13  
+ - /ENTER

- Pressing the + or - key now increases or decreases the field above. When you have reached the value desired press ENTER KEY to move to the next field. Assuming the change was to correct minutes to 20, the following message is displayed,

SEP 17, 96 20: 20  
ENTER I F CORRECT

- Pressing the ENTER key makes the change and displays the following:

SEP 17, 96 20: 20  
CHG MADE/NXT-SEL

## ENTRY (continued)

### ◆ ***INCREASE***

- +
- Moves forward most keys

### ◆ ***DECREASE***

- -
- Moves backwards most keys

### ◆ ***ENTER***