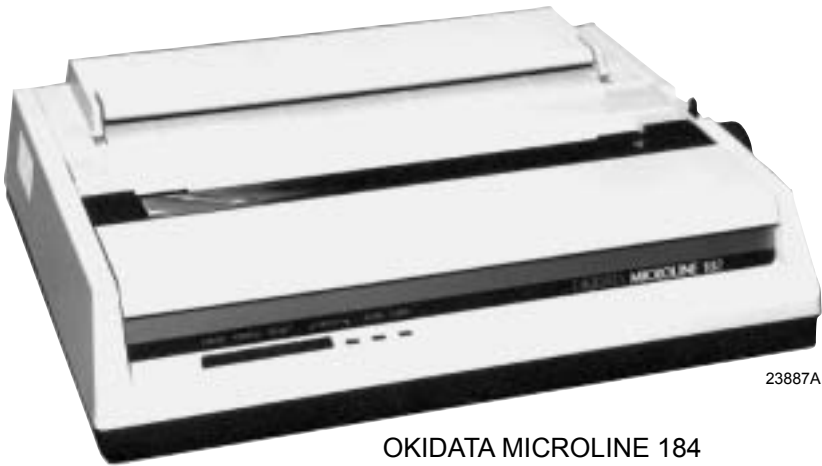


### SECTION 3 PRINTERS



23887A

OKIDATA MICROLINE 184



23889A

WEIGH-TRONIX



00085VIP

SEIKO DPU-414

FIG. 43 – PRINTERS

A printer can be connected to the Control Center's Microboard to print the following reports. The screen from which each report can be generated is listed in parenthesis.

- **Status** - Present system parameters (Printer, Home)
- **Setpoints** - Present programmed values of all setpoints (Printer, Setpoints)
- **Schedule** - Present value of programmed daily schedule (Printer, Schedule)
- **Sales Order** - Information on Sales Order Screen (Printer, Sales Order)
- **History** - System parameters at the time of the last normal stop, last fault while running and last 10 faults, whether running or not (Printer, History)
- **Cycling or Safety shutdown initiated Print** - Snapshot of all system parameters at instant of shutdown. Automatically occurs if printer is connected at time of shutdown.
- **Adaptive Capacity Control (ACC) surge Map** - System conditions at instant all surge points were mapped. (Compressor Motor Variable Speed Drive applications; requires **SERVICE** access level) (Printer, ACC)
- **Trend (Flash Memory card version C.MLM.02.02.xxx and later)** - Prints a snapshot of the existing trend screen data or prints new data collected after the trend print key is pressed.

The printer can be permanently connected to the Control Center or connected as required to produce a report. If permanently connected, a **DATA LOGGING** feature can produce a Status report automatically, beginning at an Operator selected start time and occurring at an Operator selected interval thereafter.

The following figures are examples of the different print reports. Solid State Starter application print reports shown. Electro-mechanical starter and Variable Speed Drive reports are similar but print parameters applicable to those devices.

- Figure 44 - Status
- Figure 45 - Setpoints
- Figure 46 - Schedule
- Figure 47 - Sales Order
- Figure 48 - History
- Figure 49 - Security Log (Flash Memory Card version C.MLM.02.03.xxx and later)
- Figure 50 - Trend (Flash Memory Card version C.MLM.02.02.xxx and later)
- Figure 51 - Custom Screen

- Figure 52 - Adaptive Capacity Control New Map point Report
- Figure 53 - Adaptive Capacity Control Existing Map points Report

## PRINTERS

The following Printers can be used. **Printers must be equipped with an RS-232 Serial interface.**

- **Okidata** –  
Models: 182,182 turbo, 184 turbo  
Dimensions: 14 in. wide x 10.5 in. deep  
Paper: 8.5 in. wide  
Type: Dot matrix impact  
Purchase: 800-OKIDATA
- **Weigh-Tronix** –  
Models: 2600, 1220  
Dimensions: 2.3 in. wide x 2.8 in. deep  
Paper: 2.25 in. wide  
Type: Dot matrix impact  
Purchase: USA 800-982-6622  
International 707-527-5555
- **Seiko** –  
Model: DPU414-30B (Power supply PW4007-U I required)  
Dimensions: 6.3 in. wide x 6.7 in. deep  
Paper: 4.4 in. wide  
Type: Thermal  
Purchase: Repron Electronics, Inc  
Phone: 800-800-5441 ext. 4686  
Fax: 813-891-4056  
Attn: Nancy Arthur, Account Mgr.  
(narthur@repron.com)

The Control Center provides the required formatting control codes for the printers above when the printer is selected on the PRINTER Screen in the instructions below. These codes are transmitted through the serial interface to the printer to provide a proper print format. Different printers require different formatting control codes. Other printers might provide proper operation when connected to the Control Center. However, the print format may not be correct or as desired. Proceed with caution and use the following guidelines if an unlisted printer is selected:

1. All must be capable of RS-232 Serial communications.
2. Primary differences between printers involve the formatting control codes required by the printer. These

codes are sent from the Control Center to the printer. For example, Weigh-Tronix printers require a control code to select 40 column width. This same code is interpreted by the Okidata printer as an instruction to print wide characters. In some instances, a printer will ignore a code it cannot interpret.

- The Control Center requires a busy signal from the printer when the printer receive buffer is full. This causes the Control Center to momentarily terminate data transmission until the printer can accept more data. The busy signal polarity must be asserted low when busy.

**PRINTER CONNECTIONS**

Connect the printers to the Control Center Microboard as follows. Only one printer can be connected at a time.

• **OKIDATA 182, 182 turbo, 184 turbo**

Microboard	Printer	Function
J2-4	pin 3	Tx (data to printer)
J2-2	pin 11	DSR (busy signal from printer)
J2-9	pin 7	Gnd
Cabinet		shield

• **WEIGH-TRONIX**

Microboard	Printer	Function
J2-4	pin 2	Tx (data to printer)
J2-2	pin 5	DSR (busy signal from printer)
J2-9	pin 7	Gnd
Cabinet		shield

• **SEIKO**

Microboard	Printer	Function
J2-4	pin 3	Tx (data to printer)
J2-2	pin 8	DSR (busy signal from printer)
J2-9	pin 5	Gnd
Cabinet		shield

**Hardware required:**

**Cable** – #18 AWG stranded 50ft. maximum length.

**Connectors** –

- Microboard: None. Strip 1/4" insulation from wire and insert into screw terminal block.
- Printers: Okidata - 25 pin plug DB-25P or equivalent; Shell DB-C2-J9 or equivalent. Weigh-Tronix - Same as Okidata. Cable assembly available from Weigh-Tronix. Seiko - 9-Pin D-type Subminiature (DB-9 pin male).

**PRINTER SETUP**

The selected printer must be configured as follows. Refer to manual provided by Printer manufacturer with respective Printer.

• **OKIDATA 182, 182 turbo, 184 turbo Printer**

CONTROL BOARD Switch settings:

- SW1 - on Unslashed 0
- 2 - off Unslashed 0
- 3 - off Unslashed 0
- 4 - off Form Length 11 in.
- 5 - on Form Length 11 in.
- 6 - off Auto Line Feed off
- 7 - on 8 bit data
- 8 - off Enable front panel

If equipped with a SUPER SPEED serial Board:

- SW1-1 - on Odd or even parity
- 1-2 - on No parity
- 1-3 - on 8 bit data
- 1-4 - on Protocol ready/busy
- 1-5 - on Test select
- 1-6 - on Print mode
- 1-7 - off SDD(-) pin 11
- 1-8 - on SDD(-) pin 11
- 2-1 - on 1200 Baud\*
- 2-2 - on 1200 Baud\*
- 2-3 - off 1200 Baud\*
- 2-4 - off DSR active
- 2-5 - on Buffer threshold 32 bytes
- 2-6 - on Busy signal 200ms
- 2-7 - on DTR space after power on
- 2-8 - not used

If equipped with HIGH SPEED serial board:

- SW1 - off (-) Low when busy
- 2 - off 1200 Baud\*
- 3 - off 1200 Baud\*
- 4 - on 1200 Baud\*
- 5 - not used
- 6 - off no parity
- 7 - off Pin 20 & pin 11 act as busy line

• **WEIGH-TRONIX Printer**

- IMP-24 Model 2600

- SW1 - off 1200 Baud\*
- 2 - on 1200 Baud\*

**Model 1220**

- Configure Menu  
 Baud= 1200  
 Data Bits = 8  
 Stop Bits = 1  
 Hshake = Busy-Line  
 Cols = 32  
 Invert = No  
 Font = 5 x 8  
 Mag = None

- Custom Menu  
 Auto Seq = No  
 Zero = 0  
 Pound sign = #  
 \_(Underscore)  
 Busy invert = no  
 Online/offline = yes  
 Ext Ch Set = no  
 Print ready = yes

Set Clock = not used  
 Reset Seq = not used

**• SEIKO**

DipSW1-1 = off Input-Serial  
 1-2 = on Printing speed high  
 1-3 = on Auto loading - on  
 1-4 = off Auto LF - off  
 1-5 = on Setting Command - Enable  
 1-6 = off Printing density - 100%  
 1-7 = on Printing density - 100%  
 1-8 = on Printing, density - 100%

DipSW 2-1= on Printing Columns - 40  
 2-2 = on User Font Back-up - on  
 2-3 = on Character Select - normal  
 2-4 = off Zero - slash  
 2-5 = on International character set -  
 American  
 2-6 = on International character set -  
 American  
 2-7 = on International character set -  
 American  
 2-8 = off International character set -  
 American

DipSW 3-1= on Data length - 8 bits  
 3-2 = on Parity Setting - no  
 3-3 = on Parity condition - odd  
 3-4 = on Busy control - H/W busy  
 3-5 = on Baud rate select - 1200\*

3-6 = off Baud rate select - 1200\*  
 3-7 = on Baud rate select - 1200\*  
 3-8 = off Baud rate select - 1200\*

\* Settings shown for 1200 Baud. Other Baud rates can be selected. Refer to Printer manufacturer's manual supplied with Printer.

**CONTROL CENTER SETUP****Chiller ID**

*Access Level Required:* OPERATOR or Higher  
 Using the COMMS Screen, assign an Identification number to the chiller. This number will appear at the top of each report.

**Printer Setup**

*Access Level Required:* OPERATOR or Higher  
 Using the COMMS Screen, the Control Center must be configured to transmit data in the same format as the Printer is configured to receive the data. The following values must be entered.

- Baud Rate - Set as desired. Value selected must be the same as Printer configuration above.
- Data Bits - 8
- Parity - None
- Stop Bits - 1

**Printer Type**

*Access Level required:* OPERATOR or Higher  
 Using the PRINTER Screen, the actual Printer type connected to the Control Center must be entered. Selection determines the control codes that are sent to the Printer. These codes determine such things as lines per inch, character width and general formatting. Available selections are: Okidata, Weigh-Tronix and Seiko.

**Automatic Data Logging**

*Access Level required:* OPERATOR or Higher.  
 If automatic data logging is desired, a Status Report can be automatically printed at a specified interval beginning at a specified time, using the PRINTER Screen. The interval is programmable over the range of 1 minute to 1440 minutes in 1 minute increments. The first print will occur at the programmed START time and occur at the programmed OUTPUT INTERVAL thereafter. The time remaining until the next print is displayed on the PRINTER Screen.

- Automatic Printer Logging - Enables and disables automatic data logging
- Log Start Time - Enter the time the first print is desired.
- Output Interval - Enter the desired interval between prints.

```

YORK UPDATE
CHILLER ID 0
YORK Update Chiller ID
-----
(c) 1997 - 2001 YORK INTERNATIONAL
CORPORATION

SYSTEM RUN
LEAVING CHILLED LIQUID CONTROL
WARNING - PURGE - FLOAT SWITCH ERROR
[List all warnings presently active]

Controls C.MLM.02.03.102
Run Time 0 Days 2 Hr 59 Min

Operating Hours = 298 Hr
Number Of Starts = 106
Control Source = Local

Evaporator
-----
Leaving Chilled Active Setpoint = 45.0 ~F
Chilled Liquid Pump = Run
Chilled Liquid Flow Switch = Closed
Leaving Chilled Liquid Temperature = 50.0 ~F
Return Chilled Liquid Temperature = 59.3 ~F
Evaporator Pressure = 7.2 Psia
Evaporator Saturation Temperature = 41.1 ~F
Evaporator Refrigerant Temperature = 40.0 ~F
[If Refrigerant Sensor enabled]
Small Temperature Difference = 10.0 ~F

Condenser
-----
Condenser Liquid Pump = Run
Condenser Liquid Flow Switch = Closed
Leaving Condenser Liquid Temperature = 85.0 ~F
Return Condenser Liquid Temperature = 94.9 ~F
Condenser Pressure = 13.8 Psia
Condenser Saturation Temperature = 71.7 ~F
Small Temperature Difference = -13.3 ~F
Drop Leg Refrigerant Temperature = 85.0 ~F
[If Drop Leg Sensor enabled]
Sub Cooling Temperature = 2.0 ~F
[If Drop Leg Sensor enabled]

Compressor
-----
Discharge Temperature = 121.6 ~F
Vent Line Solenoid = On

Oil Sump
-----
Oil Pump Run Output = On
Oil Pressure = 30.7 Psid
Oil Sump Temperature = 137.9 ~F

[Skip the following section if Hot Gas Bypass is not
enabled]
Hot Gas
-----

```

```

Valve Position = 15 %
Pre-Rotation Vanes Position = 75 %
Surge
-----
Total Surge Count = 127
Surge Window Time = 1 Min
Surge Window Count = 0

[Skip the following section if Liquid Level is not
enabled]
Refrigerant Level Control
-----
Refrigerant Level Position = 35 %
Ramp Up Time Remaining = 15 Sec
[If Ramp Up in effect]

Purge Control
-----
Pressure = 42.8 Psia
Exhaust Count = 0
Exhaust Window = 60 Min

[Skip the following section if Motor Type is not EM]
Electro-Mechanical Starter
-----
Motor Run = On
% Full Load Amps = 94 %

[Skip the following section if Motor Type is not Mod A
SSS]
Liquid-Cooled Solid State Starter
-----
Motor Run = On
% Full Load Amps = 94 %
Phase A Voltage = 447 V
Phase B Voltage = 409 V
Phase C Voltage = 442 V
Phase A Current = 193 A
Phase B Current = 204 A
Phase C Current = 190 A

[Skip the following section if Motor Type is not Mod B
SSS]
Liquid-Cooled Solid State Starter
-----
Motor Run = On
% Full Load Amps = 94 %
Starter Model = 33L
KW Hours = 20723 KWH
Input Power = 145 KW
Phase A Voltage = 447 V
Phase B Voltage = 409 V
Phase C Voltage = 442 V
Phase A Current = 193 A
Phase B Current = 204 A

```

**FIG. 44 – SAMPLE PRINTOUT (STATUS)**

Phase C Current	= 190 A
Phase A Temperature	= 88 ~F
Phase B Temperature	= 89 ~F
Phase C Temperature	= 75 ~F

[Skip the following section if Motor Type is not VSD]  
Variable Speed Drive

---

Motor Run	= On
% Full Load Amps	= 94 %
Pre-Rotation Vanes Position	= 75 %
Full Load Amps	= 402 A
Precharge Relay Output	= Off
Trigger SCR Output	= On
Water Pump Output	= On
KW Hours	= 14528 KWH
Input Power	= 150 KW
Output Frequency	= 60 Hz
Output Voltage	= 800 V
DC Bus Voltage	= 600 V
DC Inverter Link Current	= 300 A
Phase A Output Current	= 195 A
Phase B Output Current	= 198 A
Phase C Output Current	= 193 A
Internal Ambient Temperature	= 88 ~F
Converter Heatsink Temperature	= 102 ~F
Phase A Heatsink Temperature	= 93 ~F
Phase B Heatsink Temperature	= 99 ~F
Phase C Heatsink Temperature	= 97 ~F

[Skip the following section if Motor Type is not VSD,  
or Filter  
is not present]  
Harmonic Filter Data

---

Precharge Contactor	= Off
Supply Contactor	= On
Operating Mode	= Running
Phase Rotation	= ABC
Total Supply KVA	= 148 KVA
Total Power Factor	= 0.97
DC Bus Voltage	= 608 V
Heatsink Temperature	= 102 ~F
Voltage Peak N-L1	= 200 V
Voltage Peak N-L2	= 200 V
Voltage Peak N-L3	= 200 V
L1-L2 RMS Voltage	= 215 V
L2-L3 RMS Voltage	= 215 V
L3-L1 RMS Voltage	= 215 V
L1 RMS Filter Current	= 150 A
L2 RMS Filter Current	= 150 A
L3 RMS Filter Current	= 150 A
L1 RMS Supply Current	= 152 A
L2 RMS Supply Current	= 152 A
L3 RMS Supply Current	= 152 A
L1 Voltage Total Harmonic Distortion	= 1.5 %

FIG. 44 – CONTINUED

**YORK SETPOINTS**  
**CHILLER ID 0**

-----  
© 1997 - 1999 YORK INTERNATIONAL CORPO-  
RATION

Mon 21 jun 1999 1:27 :39 PM

Software Versions

-----  
Controls = C.MLM.02.03.102  
BIOS = C.MM.00.0  
Kernel = 0.18  
GUI = 0.25  
SIO = 0.21  
GPIC = 0.03  
Ext I/O [Skip if Hot Gas Disabled] = 1996202110  
VSD [Skip if Motor Type is not VSD] = C.VSD.01.1  
SSS [Skip if Motor Type is not Serial SSS] =  
C.SSS.01.01

System Information

-----  
System Language = English  
Data Display Mode = English  
Control Source = Local  
Remote Analog Input Range = 0-10Volts  
Clock = Enabled

Jumper Settings

-----  
Pre-Run = Standard  
Coastdown = Standard  
Chilled Liquid Pump Operation = Standard  
Refrigerant Selection = R11  
Anti-Recycle = Enabled  
Power Failure Restart = Auto  
Liquid Type = Water  
Motor Type = LCSSS  
Printer Setup

-----  
Automatic Printer Logging = Disabled  
Log Start Time = 12:00 am  
Output Interval = 60 Min  
Printer Type = Okidata  
Baud = 9600Baud  
Data Bits = 8 Bits  
Parity = None  
Stop Bits = 1 Bit  
COM 2 Setup

-----  
Baud = 19200Baud  
Data Bits = 8 Bits  
Parity = Odd  
Stop Bits = 1 Bit

Evaporator

-----  
Leaving Chilled Local Setpoint = 45.0 ~F  
Leaving Chilled ISN Setpoint = 45.0 ~F  
Leaving Chilled Modem Setpoint = 45.0 ~F  
Leaving Chilled Analog Setpoint = 45.0 ~F  
Leaving Chilled Digital Setpoint = 45.0 ~F  
Remote Range = 10.0 ~F  
Sensitivity = Normal  
Restart Offset = 0.0 ~F  
Restart Setpoint = 45.0 ~F  
Shutdown Offset = 4.0 ~F  
Shutdown Setpoint = 41.0 ~F  
Brine Low Evaporator Cutout = 5.0 Psia  
Smart Freeze = Off  
Refrigerant = Disabled

Condenser

-----  
High Pressure Warning Threshold = 28.8Psia  
Drop Leg = Disabled

[Skip the following section if Hot Gas Bypass is not  
enabled]

Hot Gas

-----  
Hot Gas = Disabled  
Hold Period = 30 Min  
Close Percentage = 5 %  
Minimum Load = 1 ~F  
Maximum Open = 80 %

Surge

-----  
Surge Sensitivity = 0.3  
Shutdown = Enabled  
Extended Run = Disabled  
Count Limit = 15  
Count Window = 5 Min

[Skip the following section if Liquid Level is not  
enabled]

Refrigerant Level Control

-----  
Level Control = On  
Setpoint = 50 %  
Period = 3.5 Sec  
Proportion Limit Open = 15 %  
Proportion Limit Close = 45 %  
Rate Limit Open = 10 %  
Rate Limit Close = 10 %

Purge Control

-----  
Hi Efficiency = Off  
Maximum Purges / Hour = 20

[Skip the following section if Motor Type is not EM]  
Electro-Mechanical Starter

-----  
Local Motor Current Limit = 100 %  
Remote ISN Current Limit = 100 %  
Remote Analog Current Limit = 100 %  
Remote Digital Current Limit = 100 %

FIG. 45 – SAMPLE PRINTOUT (SETPOINT REPORT)

```

Remote Modem Current Limit      =    100 %
Pulldown Demand Limit          =    100 %
Pulldown Demand Time           =     0 Min

  [Skip the following section if Motor Type is not Mod A
  SSS]
Liquid-Cooled Solid State Starter

-----
Local Motor Current Limit       =    100 %
Remote ISN Current Limit       =    100 %
Remote Analog Current Limit    =    100 %
Remote Digital Current Limit   =    100 %
Remote Modem Current Limit     =    100 %
Pulldown Demand Limit         =    100 %
Pulldown Demand Time          =     0 Min
Scale/Model                    =    600V,281A
Supply Voltage Range = Disabled
Full Load Amps = 150 A
Current Imbalance Check = Disabled

  [Skip the following section if Motor Type is not Mod B
  SSS]
Liquid-Cooled Solid State Starter

-----
Local Motor Current Limit       =    100 %
Remote ISN Current Limit       =    100 %
Remote Analog Current Limit    =    100 %
Remote Digital Current Limit   =    100 %
Remote Modem Current Limit     =    100 %
Pulldown Demand Limit         =    100 %
Pulldown Demand Time          =     0 Min
Starter Model                  =    33L
Voltage Range                  =    Disabled
Full Load Amps                 =    215 A
Starting Current               =    1460 A
Open SCR                       =    Disabled

  [Skip the following section if Motor Type is not VSD]
Variable Speed Drive

-----
Local Motor Current Limit       =    100 %
Remote ISN Current Limit       =    100 %
Remote Analog Current Limit    =    100 %
Remote Digital Current Limit   =    100 %
Remote Modem Current Limit     =    100 %
Pulldown Demand Limit         =    100 %
Pulldown Demand Time          =     0 Min
Motor HP                       =    351 HP
Power Line Frequency           =    60 Hz

  [Skip the following section if Motor Type is not VSD]
Harmonic Filter Data

-----
Filter Operation                =    Enabled
Motor HP                       =    351 HP
    
```

**FIG. 45 – CONTINUED**

```

YORK SCHEDULE
CHILLER ID 0
© 1997 - 1999 YORK international corporation
mon 21 jun 1999  1:28:25 pm

schedule = OFF

Standard Schedule
-----
Sun  Start = Off      Stop = Off
MOn  Start = 06:00 AM Stop = 06:00 PM
Tue  Start = 06:00 AM Stop = 06:00 PM
Wed  Start = 06:00 AM Stop = 06:00 PM
Thu  Start = 06:00 AM Stop = 06:00 PM
Fri  Start = 06:00 AM Stop = 06:00 PM
Sat  Start = Off      Stop = Off

Exception Days
-----
15 jul 1999 start = 08:00 am stop = 08:00 pm
16 jul 1999 start = 08:00 am stop = 08:00 pm
17 jul 1999 start = 08:00 am stop = 08:00 pm
18 jul 1999 start = 08:00 am stop = 08:00 pm
    
```

**FIG. 46 – SAMPLE PRINTOUT  
(SCHEDULE REPORT)**

**YORK SALES ORDER  
CHILLER ID 0**

© 1997 - 1999 YORK INTERNATIONAL CORPORATION  
Mon 21 jun 1999 1:28:46 PM

Order Information

-----  
Commissioning date  
Job Name  
Job Location  
Model Number YTFBFAH6-CVJ  
YORK Order Number 99102014-01  
Panel Serial Number 12345678  
Chiller Serial Number 12345678

Design Load - Evaporator

-----  
Passes 2  
Design Working Pressure 150  
Fouling Factor 0.00010  
Pressure Drop 21.1  
Nozzle Arrangement In 2  
Nozzle Arrangement Out 3  
Leaving Temperature 44.0  
Return Temperature 56.0  
GPM 1500.0  
Tubes 181

Design Load - condenser

-----  
Passes 2  
Design Working Pressure 150  
Fouling Factor 0.00025  
Pressure Drop 28.0  
Nozzle Arrangement In 1  
Nozzle Arrangement Out  
Leaving Temperature 94.3  
Return Temperature 85.0  
GPM 2250.0  
Tubes 230

Nameplate Information

-----  
Motor Code CV  
Power (Volts) 460  
Phases 3  
Frequency (Hz) 60  
Looked Rotor Amps 4400  
Full Load Amps 642  
Inrush Amps 655

System Information

-----  
Refrigerant R123  
Tons 150  
Gear Code RK  
Liquid Type water  
Brine Percent  
Kilowatts Input 467  
VSD / sss / em VSD

**FIG. 47 – SAMPLE PRINTOUT (SALES ORDER REPORT)**

**YORK HISTORY 1**  
**CHILLER ID 0**

-----  
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MSYSTEM READY TO START

LCSSS - LOGIC BOARD POWER SUPPLY

[List any warnings that were active at the time of shutdown]

Controls C.MLM.02.03.102

Run Time 0 Days 2 Hr 59 Min

Operating Hours = 294 Hr  
Number Of Starts = 105  
Control Source = Local

Evaporator

-----  
Leaving Chilled Active Setpoint = 45.0 ~F  
Chilled Liquid Pump = Stop  
Chilled Liquid Flow Switch = Open  
Leaving Chilled Liquid Temperature = 50.0 ~F  
Return Chilled Liquid Temperature = 59.3 ~F  
Evaporator Pressure = 7.2 Psia  
Evaporator Saturation Temperature = 41.1 ~F  
Evaporator Refrigerant Temperature = 40.0 ~F  
[If Refrigerant Sensor enabled]  
Small Temperature Difference = 10.0 ~F

Condenser

-----  
Condenser Liquid Pump = Stop  
Condenser Liquid Flow Switch = Open  
Leaving Condenser Liquid Temperature = 85.0 ~F  
Return Condenser Liquid Temperature = 94.9 ~F  
Condenser Pressure = 13.8 Psia  
Condenser Saturation Temperature = 71.7 ~F  
Small Temperature Difference = -13.3 ~F  
Drop Leg Refrigerant Temperature = 85.0 ~F  
[If Drop Leg Sensor enabled]  
Sub Cooling Temperature = 2.0 ~F  
[If Drop Leg Sensor enabled]

Compressor

-----  
Discharge Temperature = 121.6 ~F  
Vent Line Solenoid = Off

Oil Sump

-----  
Oil Pump Run Output = Off  
Oil Pressure = 0.0 Psid  
Oil Sump Temperature = 137.9 ~F

[Skip the following section if Hot Gas Bypass is not enabled]

Hot Gas

Valve Position [If Hot Gas enabled] = 0 %  
Pre-Rotation Vanes Position = 0 %  
Surge

-----  
Total Surge Count = 127  
Surge Window Time = 1 Min  
Surge Window Count = 0

[Skip the following section if Liquid Level is not enabled]

Refrigerant Level Control

-----  
Refrigerant Level Position = 35 %  
Ramp Up Time Remaining = 15 Sec  
[If Ramp Up in effect]

Purge Control

-----  
Pressure = 42.8 Psia  
Exhaust Count = 0  
Exhaust Window = 60 Min

[Skip the following section if Motor Type is not EM]

Electro-Mechanical Starter

-----  
Motor Run = Off  
% Full Load Amps = 0 %

[Skip the following section if Motor Type is not Mod A SSS]

Liquid-Cooled Solid State Starter

-----  
Motor Run = Off  
% Full Load Amps = 0 %  
Phase A Voltage = 447 V  
Phase B Voltage = 409 V  
Phase C Voltage = 442 V  
Phase A Current = 0 A  
Phase B Current = 0 A  
Phase C Current = 0 A

[Skip the following section if Motor Type is not Mod B SSS]

Liquid-Cooled Solid State Starter

-----  
Motor Run = Off  
% Full Load Amps = 0 %  
Starter Model = 33L  
KW Hours = 20723 KWH  
Input Power = 145 KW  
Phase A Voltage = 447 V  
Phase B Voltage = 409 V  
Phase C Voltage = 442 V  
Phase A Current = 0 A  
Phase B Current = 0 A

FIG. 48 – SAMPLE PRINTOUT (HISTORY REPORT)

```

[Skip the following section if Motor Type is not VSD]
Variable Speed Drive

-----
Motor Run = Off
% Full Load Amps = 0 %
Pre-Rotation Vanes Position = 0 %
Full Load Amps = 402 A
Precharge Relay Output = Off
Trigger SCR Output = Off
Water Pump Output = Off
KW Hours = 14528 KWH
Input Power = 150 KW
Output Frequency = 0 Hz
Output Voltage = 800 V
DC Bus Voltage = 600 V
DC Inverter Link Current = 300 A
Phase A Output Current = 0 A
Phase B Output Current = 0 A
Phase C Output Current = 0 A
Internal Ambient Temperature = 88 ~F
Converter Heatsink Temperature = 102 ~F
Phase A Heatsink Temperature = 93 ~F
Phase B Heatsink Temperature = 99 ~F
Phase C Heatsink Temperature = 97 ~F

[Skip the following section if Motor Type is not VSD,
or Filter is not present]
Harmonic Filter Data

-----
Precharge Contactor = Off
Supply Contactor = Off
Operating Mode = Stopped
Phase Rotation = ABC
Total Supply KVA = 148 KVA
Total Power Factor = 0.97
DC Bus Voltage = 608 V
Heatsink Temperature = 102 ~F
Voltage Peak N-L1 = 200 V
Voltage Peak N-L2 = 200 V
Voltage Peak N-L3 = 200 V
L1-L2 RMS Voltage = 215 V
L2-L3 RMS Voltage = 215 V
L3-L1 RMS Voltage = 215 V
L1 RMS Filter Current = 150 A
L2 RMS Filter Current = 150 A
L3 RMS Filter Current = 150 A
L1 RMS Supply Current = 152 A
L2 RMS Supply Current = 152 A
L3 RMS Supply Current = 152 A
L1 Voltage Total Harmonic Distortion = 1.5 %
L2 Voltage Total Harmonic Distortion = 1.2 %
L3 Voltage Total Harmonic Distortion = 1.1 %
L1 Supply Current Total Demand Distortion = 2.6 %
L2 Supply Current Total Demand Distortion = 2.3 %
    
```

FIG. 48 – CONTINUED

```

YORK SETPOINT CHANGE LOG
CHILLER ID 163
© 1997 - 2000 YORK INTERNATIONAL CORPORATION
Mon 09 Oct 2000 3:33:47 PM

Log Entry 1 Evaporator - Leaving Chilled Local Setpoint

-----
Date = 05 Oct 2001
Time = 4:23:49 PM
Access Level = Service
User Id = 4268
Old Value = 46.5 ~F
New Value = 48.0 ~F

Log Entry 2 Condenser - High Pressure Warning Threshold

-----
Date = 05 Oct 2001
Time = 1:36:12 PM
Access Level = Service
User Id = 4268
Old Value = 162.5 Psig
New Value = 225.0 Psig

Log Entry 3 Condenser - Drop Leg

-----
Date = 05 Oct 2001
Time = 1:36:02 PM
Access Level = Service
User Id = 4268
Old Value = Disabled
New Value = Enabled

Log Entry 4 Evaporator - Refrigerant

-----
Date = 05 Oct 2001
Time = 1:35:48 PM
Access Level = Service
User Id = 4268
Old Value = Disabled
New Value = Enabled
    
```

FIG. 49 – SAMPLE PRINTOUT (SECURITY LOG)

```

YORK TREND
CHILLER ID 163
© 1997 - 2000 YORK INTERNATIONAL CORPORATION
Mon 09 Oct 2000 3:33:47 PM

Data 1: Leaving Chilled Liquid Temperature
Data 2: Return Chilled Liquid Temperature
Data 3: Evaporator Pressure
Data 4: Leaving Condenser Liquid Temperature
Data 5: Return Condenser Liquid Temperature
Data 6: Condenser Pressure

Time      Data 1  Data 2  Data 3  Data 4  Data 5  Data 6
3:33:47 PM45.5 °F55.0 °F 6.3 PSIA 95.0 °F 85.0 °F 18.7
PSIA
3:33:48 PM45.5 °F55.0 °F 6.3 PSIA 95.0 °F 85.0 °F 18.7
PSIA
3:33:49 PM45.5 °F55.0 °F 6.3 PSIA 95.0 °F 85.0 °F 18.7
PSIA
    
```

**FIG. 50 – SAMPLE PRINTOUT (TREND DATA NEW OR EXISTING POINTS)**

```

YORK CUSTOM VIEW
CHILLER ID 0
(c) 1997 - 2001 YORK INTERNATIONAL CORPORATION
Mon 21 Jun 1999 1:28:25 PM

Leaving Chilled Liquid Temperature      = 45.0 ~F
Return Chilled Liquid Temperature       = 55.0 ~F
Leaving Condenser Liquid Temperature    = 95.0 ~F
Return Condenser Liquid Temperature     = 85.0 ~F
Evaporator Saturation Temperature       = 41.0 ~F
Condenser Saturation Temperature        = 78.5 ~F
Evaporator Pressure                     = 17.0 Psid
Condenser Pressure                      = 64.0 Psid
Oil Pressure                             = 45.0 Psid
% Full Load Amps                        = 50 %
    
```

**FIG. 51 – SAMPLE PRINTOUT (CUSTOM SCREEN REPORT)**

```

Log Time: Mon 12:45:39 PM 21 Jun 1999
D-P/P= 0.92; Prv Pos= 56; Freq= 39 Hz

Surge Type                               = Delta P/P Surge
Leaving Chilled Active Setpoint          = 45.0 ~F
Leaving Chilled Liquid Temperature       = 50.0 ~F
Return Chilled Liquid Temperature        = 59.3 ~F
Leaving Condenser Liquid Temperature     = 85.0 ~F
Return Condenser Liquid Temperature      = 94.9 ~F
Evaporator Pressure                     = 7.2 Psia
Condenser Pressure                      = 13.8 Psia
% Full Load Amps                        = 94 %
    
```

**FIG. 52 – SAMPLE PRINTOUT (ADAPTIVE CAPACITY CONTROL NEW MAP POINT REPORT)**

```

D-P/P = 1.20; Prv Pos = 89; Freq = 58 Hz
D-P/P = 1.41; Prv Pos = 71; Freq = 46 Hz
D-P/P = 0.98; Prv Pos = 73; Freq = 52 Hz
D-P/P = 0.71; Prv Pos = 86; Freq = 39 Hz
D-P/P = 0.86; Prv Pos = 53; Freq = 48 Hz
D-P/P = 1.14; Prv Pos = 76; Freq = 51 Hz
D-P/P = 0.84; Prv Pos = 84; Freq = 37 Hz
D-P/P = 0.99; Prv Pos = 63; Freq = 46 Hz
    
```

**FIG. 53 – SAMPLE PRINTOUT (ADAPTIVE CAPACITY CONTROL EXISTING MAP POINTS REPORT)**