



BY JOHNSON CONTROLS

Service Information

File In/With: N/A
(Supersedes SI0144 [11-06])

SI0144	
Rev 2	9-08

Equipment Affected: YCAV & YCIV Chillers

Ordering, Installation & Activation of YCAV & YCIV Optimized IPLV Aftermarket Retrofit Kit

P/N 035-21482-000

Optimized IPLV Operation

Upgrading to optimized IPLV control improves the part load efficiency of the YCAV and YCIV chillers. Changes in the compressor and fan control staging, optimizes the control of the compressor/fan sequencing and allows the microprocessor to determine how many compressors need to operate based on previous operating information. Fan control optimization sequences fans at lower discharge pressures to reduce energy consumption.

Ordering

Ordering the optimized IPLV aftermarket retrofit kit is accomplished through a two-step ordering and confirmation process.

Step 1 - Ordering the Kit:

Service and Sales offices will place a parts order for the optimized IPLV aftermarket retrofit kit using their normal process for ordering YORK Engineered Systems parts.

Step 2 - Confirmation of Kit Order:

After placing the parts order for the appropriate optimized IPLV aftermarket retrofit kit, an order confirmation form SI0144.1 must be completed and submitted to the YORK Parts Center. Form SI0144.1 OPTIMIZED IPLV RETROKIT ORDER CONFIRMATION FORM MODEL YCAV and YCIV is available for download at:

http://publish.cg.na.jci.com:9085/publish/etc/blkfileroot/cg/prod_lit/york/service_info_letters/chillers/rotary_screws/si0144.1.pdf

Order Confirmation form SI0144.1 must be completely filled in and requires specific Parts Order, Job and Chiller data. Completed form SI0144.1 is to be submitted by e-mail or fax to the YORK Parts Center. Submission of form SI0144.1 authenticates the optimized IPLV aftermarket retrofit kit order as required for issuing the activation password.

Contact information is:

Email: CG-OptimizedLatitude@jci.com

Fax: 1-410-574-0285

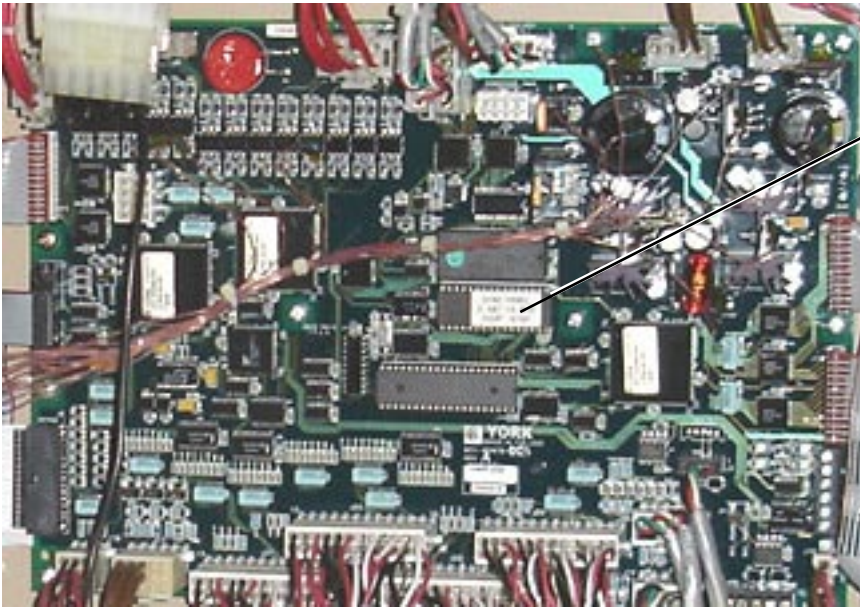
Phone: 1-410-574-0400 Ext. 3956

Parts

The optimized IPLV aftermarket retrofit kit consists of a specially designed 031-02476-002 EPROM and instruction sheet for installing the option. The part numbers for the kit vary with the number of compressors on the chiller:

- 431-02476-622 (2 compressor)
- 431-02476-623 (3 compressor)
- 431-02476-624 (4 compressor)

These part numbers should be used when ordering the kit.



**EPROM
LOCATION ON
CONTROL BOARD**

The location of the EPROM on the Chiller Control Board is shown above:

Passwords

Although the EPROM can be purchased as a standard replacement part, the activation is password protected. Unless order of the optimized IPLV aftermarket retrofit kit (431-02476-62X) kit is verified, activation passwords will not be provided. The EPROM will operate the chiller as a standard IPLV chiller if it is installed without the password activation. The password utilized to activate the option is time sensitive and is only active for 5 minutes once it is obtained.

Preparation

Upgrading the chiller software to the optimized IPLV software requires pre-installation preparation before the EPROM is installed:

- Make prior arrangements with Product Technical Support- (Mike Greiman email: michael.greiman@york.com) to be available to provide password information to you through cell phone communications at the site. This is required due to the password only being active for 5 minutes.
- Programmed information under the PROGRAM key should be recorded before the original EPROM is removed. This information may be lost when the EPROM is replaced.
- Write down the unit serial number from the Unit Data Plate. It may be lost when the EPROM is replaced and may need to be re-programmed using a second password provided by Product Technical Support.
- Assure the date and time on the panel is correct. Assure Product Technical Support is aware of the local time on the panel, which is required in the password calculation process.
- Note the orientation of the notch on the original installed EPROM and the location of the notch on the new EPROM. The notch orientation must be the same or the EPROM will be damaged instantly when power is applied.

Changing the EPROM

After the preparation steps have been completed, remove power from the chiller. Carefully remove the EPROM and replace it with the new EPROM, assuring the notch in the EPROM is in the same orientation as the original and matches the silkscreen on the circuit board. Be sure all the legs of the EPROM are inserted into the socket. Re-power the chiller.

Checking the Serial Number

The serial number of the chiller needs to be checked and corrected if needed before programming the chiller for high IPLV. An error message will be displayed when the STATUS Key is pressed if the serial number is lost or incorrect.

**UNIT WARNING: INVALID SERIAL NUMBER
ENTER UNIT SERIAL NUMBER**

The serial number is password protected and requires a password based on date and time to be provided by Product Technical Support. The Password is also time sensitive and must be used the same day it is received. To obtain the password, you will need to supply Factory Technical Support with the version of the new optimized IPLV EPROM and the date displayed when the DATE/TIME key is pressed. The version will be written on the EPROM label and typically will be in the format Version C.ACS.XX.XX.

After obtaining the password, the following steps will need to be followed to input the serial number. As the serial number is input, the characters keyed in will appear in the display indicating the panel has recognized the key entry. The \surd (ENTER) Key stores the change and the stored character will be displayed until the \blacktriangledown down arrow Key is pressed. The procedure for changing the serial number is described below.

First press the SERVICE Key. The following message will appear:

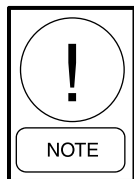
**SERVICE MODE XXXX
PRESS ENTER KEY TO CONTINUE**

Key in the 5 digit alphanumeric password provided by Product Technical Support and press the \surd (ENTER) key. The following display will appear:

**S/N ENTRY UNIT SERIAL NUMBER POS 1
◀ ▶ X**

Key in the first letter (A through Z) of the serial number using the \blacktriangleleft and \blacktriangleright (ARROW) keys and press the \surd (ENTER) key to store the entry. Press the \blacktriangledown (DOWN ARROW) key to scroll to position 2 and the following message will appear:

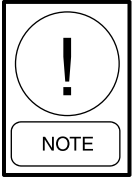
**S/N ENTRY UNIT SERIAL NUMBER POS 2
◀ ▶ XX**



Only the second character will appear and will be shifted one space to the right.

Key in the second letter (A through N) of the serial number using the ◀ and ▶ (ARROW) keys and press the √ (ENTER) key to store the entry. Press the ▼ (DOWN ARROW) key to scroll to position 3 and the following message will appear:

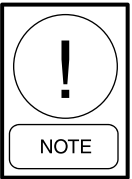
```
S/N ENTRY   UNIT SERIAL NUMBER POS 3
◀ ▶         XXX
```



Only the third character will appear and will be shifted one space to the right.

Key in the third letter (A through Z) of the serial number using the ◀ and ▶ (ARROW) keys and press the √ (ENTER) key to store the entry. Press the ▼ (DOWN ARROW) key to scroll to position 4 and the following message will appear:

```
S/N ENTRY   UNIT SERIAL NUMBER POS 4
◀ ▶         XXXX
```



Only the forth character will appear and will be shifted one space to the right.

Key in the fourth letter (A through Z) of the serial number using the ◀ and ▶ (ARROW) keys and press the √ (ENTER) key to store the entry. Press the ▼ (DOWN ARROW) key to scroll to positions 5-7 and the following message will appear:

```
S/N ENTRY UNIT S/N = YYYY XXX ZZZ
UNIT SERIAL NUMBER POS 8-10 = XXX
```

At this point, the letters entered for the YYYY inputs should now appear in the top line of the display and should match the first 4 characters of the serial number on the unit Data Plate. The next three digits of the serial number should now be keyed in using the numerical keys in the keypad. Press the √ (ENTER) key to store the input. Press the ▼ (DOWN ARROW) key to scroll to positions 8-10 and the following message will appear:

```
S/N ENTRY UNIT S/N = YYYY XXX ZZZ
UNIT SERIAL NUMBER POS 5-7 = XXX
```

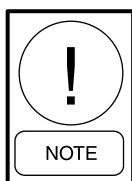
At this point, the letters entered for the YYYY and XXX inputs should now appear in the top line of the display and should match the first 7 characters of the serial number on the unit Data Plate. The next three digits of the serial number should now be keyed in using the numerical keys in the keypad. Press the √ (ENTER) key to store the input. The full serial number should now be displayed across the top of the display and the cursor should disappear.

Programming the system for optimized efficiency IPLV

Pressing the STATUS Key display will inform the operator when a OPTIMIZED IPLV EPROM is installed and the chiller is operating with the optimized efficiency IPLV mode disabled. The control panel will display the following STATUS message:

**UNIT WARNING: OPTIMIZED EFFICIENCY
DISABLED - CONTACT YORK REPRESENTATIVE**

If the message above appears, the option will need to be password enabled. YORK Product Technical Support will provide the password to enable the optimized IPLV mode. To provide the password, they will need to know the Unit Serial Number located on the chiller nameplate. This should already have been programmed into memory. The date and time will also need to be current on the chiller display and will also need to be provided to YORK Product Technical Support along with the version of the EPROM (C.ACS.XX.XX). It is essential YORK Product Technical Support is aware of the “local” time to allow adjustments for time differences from Eastern Standard Time.



After obtaining the password, the following steps will need to be carried out “immediately” to input the serial number. If the password is not immediately input, the panel will not accept it after a time period of 5 minutes has elapsed.

To enable Optimized Efficiency IPLV Mode, first press the SERVICE Key. The following message will appear:

**SERVICE MODE XXXX
PRESS ENTER KEY TO CONTINUE**

Key in the 6 digit alphanumeric password provided by YORK Technical Support or YORK ES Commercial and press the √ (ENTER) key. The following display will appear:

**IPLV OPTIMIZED EFFICIENCY CONTROL
◀ ▶ XXXXXXXXXXXXXXXXXXXXXXXXXXXX**

When the Optimized Efficiency Control is enabled, the display will indicate, “ENABLED”. When not enabled, the display will indicate, “DISABLED”. Use the ◀ and ▶ (ARROW) keys to enable the option and press the √ (ENTER) key to store the selection.

The process is now complete and the chiller will function as a HI IPLV chiller.