



BY JOHNSON CONTROLS

Service Information

File In/With: N/A

SI0289

New 614

Equipment Affected: YCAS, YCWS, and YCRS

New Style Motor Protection Model

GENERAL

This standard is designed to provide the process for retrofitting motor protector 2ACE module for Across the Line and Wye-Delta starters. The product lines this will address are YCAS, YCWS, and YCRS.

Safety is an important aspect of the retrofit process; the installer must be cognizant of the proper "Lock Out Tag Out" procedure. Circumventing safety procedures could cause death, shock hazard and damage to equipment. Create a Safe Working Environment (below) outlines the minimum safety procedure required for this retrofit.

PREPARATION

Prior to starting this phase of the retrofit, the installer should have all the necessary drawings, tools, multi-meters and a plan on how to perform this retrofit. Below is a checklist of the items required to perform the retrofit.

- Bill of Materials for Kit
- Drawings (reference: Appendix A)
- Tools and Meters (reference: Appendix B)

PLANNING

Planning the retrofit is an essential element of a success and productivity. The installer must make certain the position of the motor protector, CT, wiring to micro panel, wiring to motors and wiring of control signal from CT to the micro panel input.

Work on this equipment should only be done by properly trained personnel who are qualified to work on this type of equipment. Failure to comply with this requirement could expose the worker, the equipment and the building and its inhabitants to the risk of injury or property damage.

The instructions on this service bulletin are written assuming the individual who will perform this work is a fully trained HVAC & R journeyman or equivalent, certified in refrigerant handling and recovery techniques, and knowledgeable with regard to electrical lock out/tag out procedures. The individual performing this work should be aware of and comply with all Johnson Controls, national, state and local safety and environmental regulations while carrying out this work. Before attempting to work on any equipment, the individual should be thoroughly familiar with the equipment by reading and understanding the associated service literature applicable to the equipment. If you do not have this literature, you may obtain it by contacting a Johnson Controls Service Office.

Should there be any question concerning any aspect of the tasks outlined in this bulletin, please consult a Johnson Controls Service Office prior to attempting the work. Please be aware that this information may be time sensitive and that Johnson Controls reserves the right to revise this information at any time. Be certain you are working with the latest information.

CREATE A SAFE WORKING ENVIRONMENT

Perform the retrofit in a safe and secure environment adhering to Johnson Controls policy.

1. De-Energize All Power prior to starting retrofit.
2. Perform Lock-Out Tag-Out Procedure.
3. Open panel doors and check for voltage such as capacitor banks are fully discharged.
 - a. Care and judgement should be exercised to make certain remote power sources are not energized.
 - b. Make certain any residual voltage such as capacitor banks are fully discharged.

PROCEDURES

1. Reference Panel Wiring Diagrams and Assembly Drawings to locate the mounting position of the existing motor protector for each system. The new motor protector will be mounted in the same vicinity of the control panel since the wiring is already cut, dressed and secured to the panel. APPENDIX A contains drawing numbers that can be referenced as a "Go By". **The exact configuration may not be contained in these drawings;** however, they should provide a good foundation to perform the retrofit.
2. Remove the wiring and existing motor protector from panel. Care should be taken to avoid damage to the existing wiring since it will be re-used. Mount and secure new motor protector module and CT into Control Panels with proper screws and nuts. It will be necessary to drill and tap new holes for the new motor protectors. Care must be taken to avoid medal chips in the panel since drilling and tapped holes will be required to mount the new hardware.
3. Perform the wiring to the temperature module INT369 as shown in the wiring diagram.
 - a. Temperature Sensors, S1, S2, S3 and C
 - b. M1 and M2 output contacts
 - c. T1 and T2
4. Perform the wiring to the CT module – SC100-2L as shown in the wiring diagram.
 - a. Route Phase "A" motor power wiring
 - b. (+) and (-) output wiring
 - c. Place Jumper position for 200A position

WIRE CHECK

This portion of the installation must be performed with the power de-energized.

Check wiring going to motor protectors and CT's installed.

Check to make certain no shorts exist between these components.

Make sure all safety covers and panel doors are re-installed prior to applying power.

RUN CHECKS

1. Position "On/Off" rocker switch on the keypad to the "Off" position.
2. Apply power to the chiller.
3. Position rocker switch to the "On" position.
4. Run System 1 of chiller and check for proper operation. The voltage output of the new CT should provide motor current feedback as the 2ACE module.
5. Run System 2 of chiller and check for proper operation. The voltage output of the new CT should provide motor current feedback as the 2ACE module.
6. The chiller should now be able to run in automatic mode.

APPENDIX A

Drawings Required to Perform Retrofit

	YCAS	YCWS	YCRS
Compressors	Reference Drawings		
2	035-15164-301 to 304	035-21051-301	
3	035-15937-401 to 405		
4	035-16253-401 to 405		
Assembly	035-15164-999		

APPENDIX B

Tools and Meters Required to Perform Retrofit

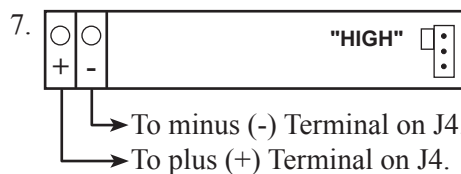
Multi-Meter	Digital -Volts-Ohms and Amps
Wire Stripers	18 to 12 Gage Wire
Screw Drivers	Various Flat. Phillips and Torqux
Crimper Tool	18 to 12 Gage Wire
Pin Extraction Tool	

KIT PART NUMBERS

COMPRESSOR	PART NUMBER
1	392-14313-000
2	392-14313-001
3	392-14313-002
4	392-14313-003
M.P.M. "ONLY" = 025-46151-101	

SERVICE NOTES:

1. New compressor needs a 270 Ω resistor across S1, S2, S3 (in series)
2. New compressor thermistors will read 50-60 Ω
3. Old compressors or remanufactured Compressor thermistors will read 12 -1,500 Ω
4. New MPM are 120VAC
5. C.T. plus wire goes to the plus on J4 and the minus goes to the minus on J4 (See Elementary Drawings)
6. C.T. jumper to be set on the HIGH SETTING.

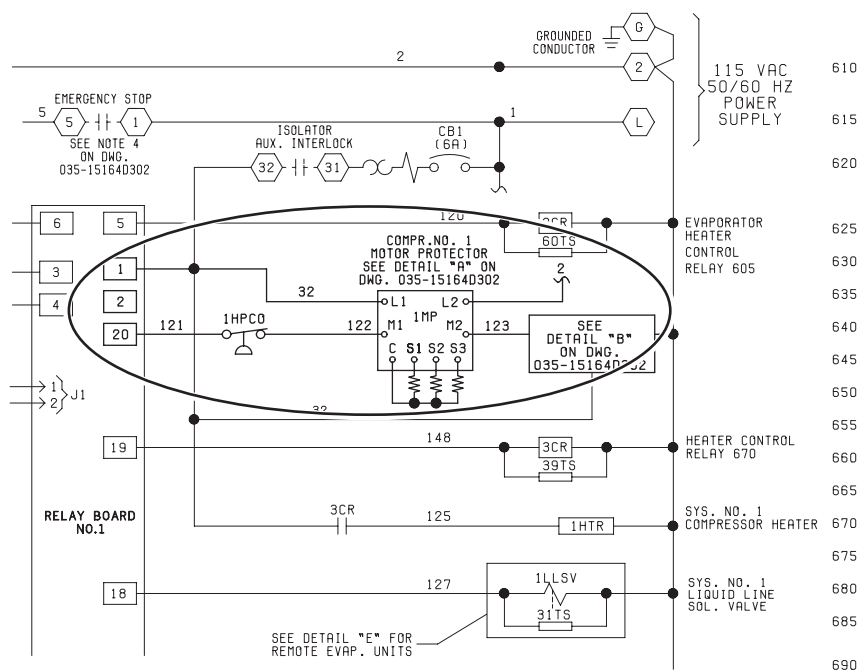


NOTE: Polarity + and - when wiring to I/O exp. board.

8. Same number of wires go through the new C.T. as the original C.T.

ELEMENTARY DRAWINGS

SYSTEM 1 - 120VAC, RELAY PCB 1
WIRE 32 AND WIRE 2

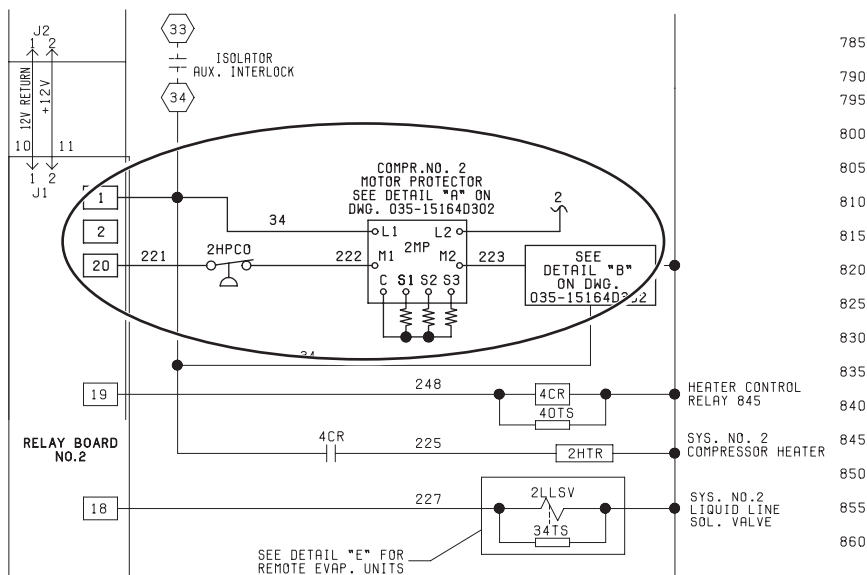


035-15164-301 System 1

LD18308

SYSTEM 2 - 120VAC, RELAY PCB 2

WIRE 34 AND WIRE 2



035-15164-301 System 2

LD18309

NOTE: Wire numbers may/will change on these schematics depending on the product and the new M.P.M. is being installed on location and wiring points stay the same.



YORK/By JOHNSON CONTROLS

THIS PAGE INTENTIONALLY LEFT BLANK.