YORK®	*Millennium* ™ AIR COOLED SCREW LIQUID CHILLERS (STYLE F)	
WIRING DIAGRAM	Supersedes: Nothing	Form 201.18-W2 (599)

MODELS YCAS0373 THRU YCAS0653

28971A(r)

WARNING

HIGH VOLTAGE
is used in the operation of this equipment
DEATH OR SERIOUS INJURY
may result if personnel fail to observe precautions.

Work on electronic equipment should not be undertaken unless the individual(s) has (have) been trained in the proper maintenance of the equipment and is (are) familiar with its potential hazards.

Shut off power supply to equipment before beginning work and follow lockout procedures. When working inside equipment with power off, take special care to discharge every capacitor likely to hold dangerous potential.

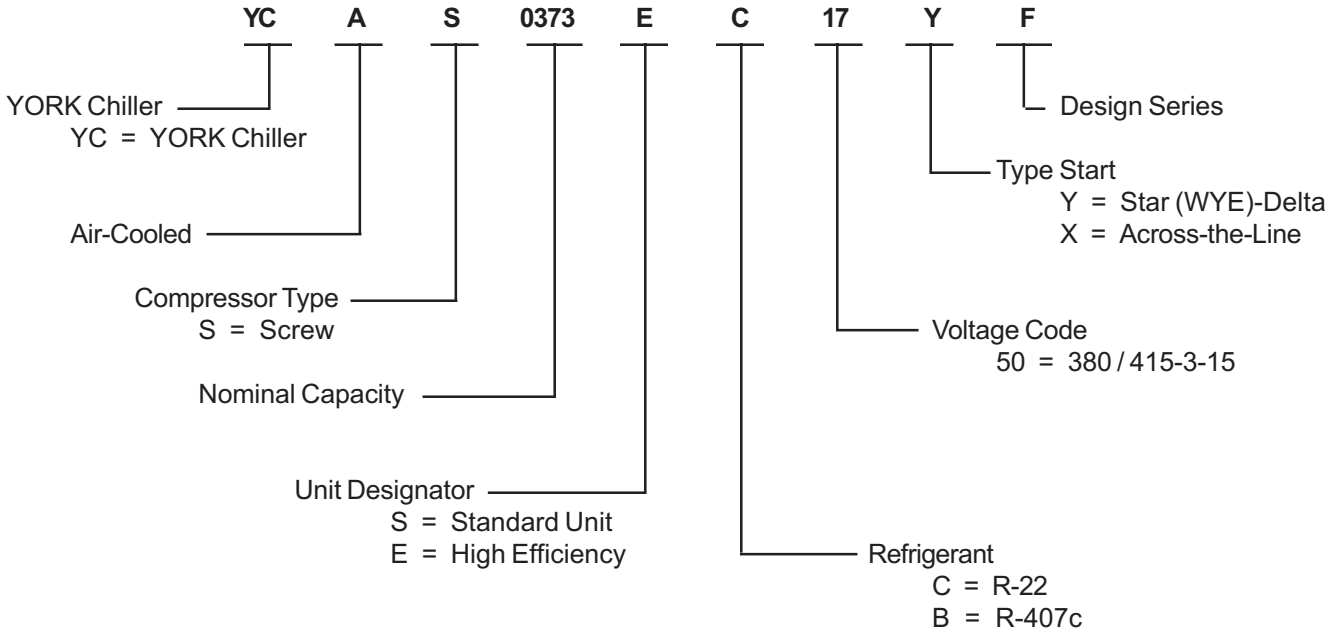
Be careful not to contact high voltage connections when installing or operating this equipment.

LOW VOLTAGE

DO NOT be misled by the term “low voltage”. Voltages as low as 50 volts may cause death.

NOMENCLATURE

The Model Number denotes the following characteristics of the unit:



ELECTRICAL DATA

MULTIPLE POINT 380V / 50HZ / 3Ø POWER SUPPLY CONNECTION

Each of Two Field Provided Power Supply Circuits individually protected with Branch Circuit Protection.
Field Connections to Factory provided Terminal Block (Std), Disconnects (Opt), or Breakers(Opt) in each of the two Motor Control Centers.

CHILLER MODEL YCAS	ELECTRICAL SYSTEM #1 FIELD SUPPLIED WIRING											
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE[7]			COMPRESSOR DATA			FAN DATA[11, 12]	
	MRC (MCA[1])	MIN NF DISC SW[2]	OVER-CURRENT PROTECTION		STANDARD* TERMINAL BLOCK	OPTIONAL* NF DISC. SWITCH	OPTIONAL CIRCUIT BREAKER	RLA	Y-LRA	X-LRA	QTY	FLA (EA)
			MIN.[3, 5]	MAX.[4, 6]								
0373SB	148	150	200	250	# 2 - 4/0	# 6 AWG - 350	# 6 AWG - 350	108	241	761	3	4.4
0403SB	160	200	200	250	# 2 - 300	# 6 AWG - 350	# 6 AWG - 350	118	241	761	3	4.4
0453SB	188	200	225	300	# 2 - 300	# 6 AWG - 350	# 6 AWG - 350	140	309	979	3	4.4
0503SB	215	250	300	350	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	161	309	979	3	4.4
0543SB	193	200	250	300	# 2 - 300	# 6 AWG - 350	# 6 AWG - 350	141	309	979	4	4.4
0573SB	227	250	300	350	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	168	309	979	4	4.4
0623SB	247	250	300	400	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	183	309	979	4	4.4
0653SB	232	250	300	350	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	168	309	979	5	4.4

***** "Optional" Circuit Breakers are REQUIRED for units with CE mark.

NOTES

1. MRC is Maximum Running Current, the maximum continuous current at any operating point in the rating range. Also referred to as MCA, or Minimum Current Ampacity to be furnished by the installer.
2. The recommended disconnect switch is based on a minimum of 115% of the summation rated load amps of all the loads included in the circuit, per N.E.C. 440 - 12A1.
3. Minimum fuse size is based on 150% of the largest motor RLA plus 100% of the remaining RLAs (U.L. Standard 1995, Section 36.1). Minimum fuse rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
4. Maximum dual element fuse size is based on 225% maximum plus 100% of the rated load amps for all other loads included in the circuit, per N.E.C. 440-22. Maximum fuse rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
5. Minimum circuit breaker is 150% maximum plus 100% of rated load amps included in the circuit, per circuit per U.L. 1995 Fig. 36.2. Minimum circuit breaker rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
6. Maximum circuit breaker is based on 225% maximum plus 100% of the rated load amps for all loads included in the circuit, per circuit, per U.L. 1995 Fig. 36.2. Maximum circuit breaker rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
7. The Incoming Wire Range is the minimum and maximum wire size that can be accommodated by unit wiring lugs. The (1), (2), or (3) indicate the number of termination points or lugs which are available per phase. Actual wire size and number of wires per phase must be determined based on ampacity and job requirements using N.E.C. wire sizing information. The above recommendations are based on the National Electric Code and using copper connectors only. Field wiring must also comply with local codes.
8. A ground lug is provided for each compressor system to accommodate field grounding conductor per N.E.C. Article 250-54. A control circuit grounding lug is also supplied. Incoming ground wire range is #6 - 350 MCM.
9. The field supplied disconnect is a "Disconnecting Means" as defined in N.E.C. 100.B, and is intended for isolating the unit from the available power supply to perform maintenance and troubleshooting. This disconnect is not intended to be a Load Break Device.
10. Two-Compressor machines with single-point power connection, and equipped with Star-Delta Compressor motor starters, must also include Factory-provided circuit breakers in each motor control center. 3 & 4 Compressor machine equipped with Star-Delta compressor motor starter, must also include factory-provided circuit breakers in each motor control center.
11. Consult factory for Electrical Data on units equipped with "High Static Fan" Option. High Static Fans are 3.5 kW each.
12. FLA for "Low Noise Fan" motors is 4.1 A.

CHILLER MODEL YCAS	ELECTRICAL SYSTEM #2 FIELD SUPPLIED WIRING												
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE[7]			COMPRESSOR DATA			FAN DATA[11, 12]	
	MRC (MCA[1])	MIN NF DISC SW[2]	OVER-CURRENT PROTECTION MIN.[3, 5]	OVER-CURRENT PROTECTION MAX.[4, 6]	STANDARD* TERMINAL BLOCK	OPTIONAL* NF DISC. SWITCH	OPTIONAL CIRCUIT BREAKER	RLA	Y-LRA	X-LRA	QTY	FLA (EA)
0373SB	148	150	200	250	# 2 - 4/0	# 6 AWG - 350	# 6 AWG - 350	108	241	761	3	4.4
0403SB	160	200	200	250	# 2 - 300	# 6 AWG - 350	# 6 AWG - 350	118	241	761	3	4.4
0453SB	188	200	225	300	# 2 - 300	# 6 AWG - 350	# 6 AWG - 350	140	309	979	3	4.4
0503SB	215	250	300	350	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	161	309	979	3	4.4
0543SB	193	200	250	300	# 2 - 300	# 6 AWG - 350	# 6 AWG - 350	141	309	979	4	4.4
0573SB	227	250	300	350	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	168	309	979	4	4.4
0623SB	247	250	300	400	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	183	309	979	4	4.4
0653SB	232	250	300	350	# 1 - 500	# 6 AWG - 350	(2) 3/0-250	168	309	979	5	4.4

NO. OF COMPRESSORS	CONTROL POWER SUPPLY	MCA (MAX LOAD CURRENT)	MAX DUAL ELEMENT FUSE SIZE	NON-FUSED DISCONNECT SWITCH SIZE
2	115V-1Ø	20A	20A	30A
3 or 4 (Non-CE 50/60Hz)	115V-1Ø	30A	30A	30A
3 or 4 (CE 50Hz)	115V-1Ø	25A	30A	30A

LEGEND

ACR-LINE	ACROSS THE LINE START
CB	CIRCUIT BREAKER
DE FU	DUAL ELEMENT FUSE
DISC SW	DISCONNECT SWITCH
FACT MOUNT CB	FACTORY-MOUNTED CIRCUIT BREAKER
FACT MOUNT FUSE	FACTORY-MOUNTED FUSES
FLA	FULL LOAD AMPS
HZ	HERTZ
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MIN NF	MINIMUM NON-FUSED
RLA	RUNNING LOAD AMPS
S.P. WIRE	SINGLE-POINT WIRING
UNIT MTD SERV SW	UNIT-MOUNTED SERVICE (NON-FUSED DISCONNECT SWITCH)
WYE-DELTA	WYE-DELTA START
XLRA	ACROSS-THE-LINE INRUSH LOCKED ROTOR AMPS
YLRA	WYE-DELTA INRUSH LOCKED ROTOR AMPS

ELECTRICAL DATA (Continued)

OPTIONAL 380V / 50HZ / 3Ø SINGLE POINT POWER SUPPLY CONNECTION AND INTERNAL UNIT CIRCUIT BREAKERS

One Field Provided Power Supply Circuit to the chiller. Field connections to Power Terminal Block or Non-Fused Disconnect in 'Option Panel'. Internal Branch Circuit Protection (Breakers) per Motor Control Center

MODEL YCAS	FIELD SUPPLIED WIRING							
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE			
	MRC (MCA[1])	MIN NF DISC SW[2]	OVER-CURRENT PROTECTION[13]		TERMINAL BLOCK		NF SERVICE DISC. SWITCH	
			MIN.[3,5]	MAX.[4,6]	(LUGS) WIRE RANGE[7]	RATING[2]	(LUGS) WIRE RANGE[7]	RATING[2]
0373SB	296	400	300	350	# 1 - 500	380	(2) 3/0-250	400
0403SB	321	400	350	400	(2) # 2 - 300	550	(2) 3/0-250	400
0453SB	375	400	400	450	(2) # 2 - 300	550	(2) 3/0-250	400
0503SB	430	600	450	500	(2) # 1 - 500	760	(3) 2/0-400	630
0543SB	387	400	400	450	(2) # 2 - 300	550	(2) 3/0-250	400
0573SB	455	600	500	500	(2) # 1 - 500	760	(3) 2/0-400	630
0623SB	493	600	500	600	(2) # 1 - 500	760	(3) 2/0-400	630
0653SB	464	600	500	500	(2) # 1 - 500	760	(3) 2/0-400	630

NOTES

1. MRC is Maximum Running Current, the maximum continuous current at any operating point in the rating range. Also referred to as MCA, or Minimum Current Ampacity to be furnished by the installer.
2. The recommended disconnect switch is based on a minimum of 115% of the summation rated load amps of all the loads included in the circuit, per N.E.C. 440 - 12A1.
3. Minimum fuse size is based on 150% of the largest motor RLA plus 100% of the remaining RLAs (U.L. Standard 1995, Section 36.1). Minimum fuse rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
4. Maximum dual element fuse size is based on 225% maximum plus 100% of the rated load amps for all other loads included in the circuit, per N.E.C. 440-22. Maximum fuse rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
5. Minimum circuit breaker is 150% maximum plus 100% of rated load amps included in the circuit, per circuit per U.L. 1995 Fig. 36.2. Minimum circuit breaker rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
6. Maximum circuit breaker is based on 225% maximum plus 100% of the rated load amps for all loads included in the circuit, per circuit, per U.L. 1995 Fig. 36.2. Maximum circuit breaker rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
7. The Incoming Wire Range is the minimum and maximum wire size that can be accommodated by unit wiring lugs. The (1), (2), or (3) indicate the number of termination points or lugs which are available per phase. Actual wire size and number of wires per phase must be determined based on ampacity and job requirements using N.E.C. wire sizing information. The above recommendations are based on the National Electric Code and using copper connectors only. Field wiring must also comply with local codes.
8. A ground lug is provided for each compressor system to accommodate field grounding conductor per N.E.C. Article 250-54. A control circuit grounding lug is also supplied. Incoming ground wire range is #6 - 350 MCM.
9. The field supplied disconnect is a "Disconnecting Means" as defined in N.E.C. 100.B, and is intended for isolating the unit from the available power supply to perform maintenance and troubleshooting. This disconnect is not intended to be a Load Break Device.
10. Two-Compressor machines with single-point power connection, and equipped with Star-Delta Compressor motor starters, must also include Factory-provided circuit breakers in each motor control center. 3 & 4 Compressor machine equipped with Star-Delta compressor motor starter, must also include factory-provided circuit breakers in each motor control center.
11. Consult factory for Electrical Data on units equipped with "High Static Fan" Option. High Static Fans are 3.5 kW each.
12. FLA for "Low Noise Fan" motors is 4.1 A.

MODEL YCAS	SYSTEM #1						SYSTEM #2					
	FACTORY CIRCUIT BREAKER	COMPRESSOR DATA			FAN DATA		FACTORY CIRCUIT BREAKER	COMPRESSOR DATA			FAN DATA[11, 12]	
		RLA	Y-LRA	X-LRA	QTY	FLA (EA)		RLA	Y-LRA	X-LRA	QTY	FLA (EA)
0373SB	250	107.9	241	761	3	4.4	250	107.9	241	761	3	4.4
0403SB	250	117.7	241	761	3	4.4	250	117.7	241	761	3	4.4
0453SB	250	139.5	309	979	3	4.4	250	139.5	309	979	3	4.4
0503SB	400	161.3	309	979	3	4.4	400	161.3	309	979	3	4.4
0543SB	250	140.6	309	979	4	4.4	250	140.6	309	979	4	4.4
0573SB	400	167.9	309	979	4	4.4	400	167.9	309	979	4	4.4
0623SB	400	183.1	309	979	4	4.4	400	183.1	309	979	4	4.4
0653SB	400	167.9	309	979	5	4.4	400	167.9	309	979	5	4.4

NO. OF COMPRESSORS	CONTROL POWER SUPPLY	MCA (MAX LOAD CURRENT)	MAX DUAL ELEMENT FUSE SIZE	NON-FUSED DISCONNECT SWITCH SIZE
2	115V-1Ø	20A	20A	30A
3 or 4 (Non-CE 50/60Hz)	115V-1Ø	30A	30A	30A
3 or 4 (CE 50Hz)	115V-1Ø	25A	30A	30A

LEGEND

ACR-LINE	ACROSS THE LINE START
CB	CIRCUIT BREAKER
DE FU	DUAL ELEMENT FUSE
DISC SW	DISCONNECT SWITCH
FACT MOUNT CB	FACTORY-MOUNTED CIRCUIT BREAKER
FACT MOUNT FUSE	FACTORY-MOUNTED FUSES
FLA	FULL LOAD AMPS
HZ	HERTZ
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MIN NF	MINIMUM NON-FUSED
RLA	RUNNING LOAD AMPS
S.P. WIRE	SINGLE-POINT WIRING
UNIT MTD SERV SW	UNIT-MOUNTED SERVICE (NON-FUSED DISCONNECT SWITCH)
WYE-DELTA	WYE-DELTA START
XLRA	ACROSS-THE-LINE INRUSH LOCKED ROTOR AMPS
YLRA	WYE-DELTA INRUSH LOCKED ROTOR AMPS

ELECTRICAL DATA (Continued)

OPTIONAL 380V / 50HZ / 3Ø SINGLE POINT POWER SUPPLY CONNECTION WITH FIELD SUPPLIED CIRCUIT PROTECTION

One Field Provided Power Supply Circuit to the chiller. Field Connection to Power Terminal Block or Disconnect Switch in the 'Option Panel'.
No Internal Branch Circuit Protection per Motor Control Center.

MODEL YCAS	FIELD SUPPLIED WIRING							SYSTEM #1			SYSTEM #2		
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE			COMPRESSOR DATA		FANS DATA[11, 12]	COMPRESSOR DATA		FANS DATA[11,12]
	MCA[1]	MIN NF DISC SW[2]	OVRCRNT. PRO. MIN.[3]	OVRCRNT. PRO. MAX.[4]	TERMINAL BLOCK (LUGS) WIRE RANGE[7]	NF SERVICE DISC. SWITCH RATING[2]	NF SERVICE DISC. SWITCH (LUGS) WIRE RANGE[7]	RLA	X-LRA	FLA (EA)	RLA	X-LRA	FLA (EA)
0373SB	269	400	300	350	# 1 - 500	400	(2) 3/0-250	108	761	4.4	108	761	4.4
0403SB	291	400	350	400	(2) # 2 - 300	400	(2) 3/0-250	118	761	4.4	118	761	4.4
0453SB	340	400	400	450	(2) # 2 - 300	400	(2) 3/0-250	140	979	4.4	140	979	4.4
0503SB	389	600	450	500	(2) # 1 - 500	630	(3) 2/0-400	161	979	4.4	161	979	4.4
0543SB	352	400	400	450	(2) # 2 - 300	400	(2) 3/0-250	141	979	4.4	141	979	4.4
0573SB	413	600	500	500	(2) # 1 - 500	630	(3) 2/0-400	168	979	4.4	168	979	4.4
0623SB	447	600	500	600	(2) # 1 - 500	630	(3) 2/0-400	183	979	4.4	183	979	4.4
0653SB	422	600	500	500	(2) # 1 - 500	630	(3) 2/0-400	168	979	4.4	168	979	4.4

Option not available for units with CE Mark.

NOTE: Model Numbers 0373SB, 0403SB, 0453SB and 0530SB have three (3) fans per circuit; six (6) total.
Model Numbers 0543SB, 0573SB and 0623SB have four (4) fans per circuit; eight (8) total.
Model Number 0653SB has five (5) fans per circuit; ten (10) total.

NOTES

1. MRC is Maximum Running Current, the maximum continuous current at any operating point in the rating range. Also referred to as MCA, or Minimum Current Ampacity to be furnished by the installer.
2. The recommended disconnect switch is based on a minimum of 115% of the summation rated load amps of all the loads included in the circuit, per N.E.C. 440 - 12A1.
3. Minimum fuse size is based on 150% of the largest motor RLA plus 100% of the remaining RLAs (U.L. Standard 1995, Section 36.1). Minimum fuse rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
4. Maximum dual element fuse size is based on 225% maximum plus 100% of the rated load amps for all other loads included in the circuit, per N.E.C. 440-22. Maximum fuse rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
5. Minimum circuit breaker is 150% maximum plus 100% of rated load amps included in the circuit, per circuit per U.L. 1995 Fig. 36.2. Minimum circuit breaker rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
6. Maximum circuit breaker is based on 225% maximum plus 100% of the rated load amps for all loads included in the circuit, per circuit, per U.L. 1995 Fig. 36.2. Maximum circuit breaker rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
7. The Incoming Wire Range is the minimum and maximum wire size that can be accommodated by unit wiring lugs. The (1), (2), or (3) indicate the number of termination points or lugs which are available per phase. Actual wire size and number of wires per phase must be determined based on ampacity and job requirements using N.E.C. wire sizing information. The above recommendations are based on the National Electric Code and using copper connectors only. Field wiring must also comply with local codes.
8. A ground lug is provided for each compressor system to accommodate field grounding conductor per N.E.C. Article 250-54. A control circuit grounding lug is also supplied. Incoming ground wire range is #6 - 350 MCM.
9. The field supplied disconnect is a "Disconnecting Means" as defined in N.E.C. 100.B, and is intended for isolating the unit from the available power supply to perform maintenance and troubleshooting. This disconnect is not intended to be a Load Break Device.
10. Two-Compressor machines with single-point power connection, and equipped with Star-Delta Compressor motor starters, must also include Factory-provided circuit breakers in each motor control center. 3 & 4 Compressor machine equipped with Star-Delta compressor motor starter, must also include factory-provided circuit breakers in each motor control center.
11. Consult factory for Electrical Data on units equipped with "High Static Fan" Option. High Static Fans are 3.5 kW each.
12. FLA for "Low Noise Fan" motors is 4.1 A.

OPTIONAL 380V / 50HZ / 3Ø SINGLE POINT POWER SUPPLY CONNECTION TO FACTORY CIRCUIT BREAKER

One Field Provided Power Supply Circuit to the chiller. Field Connection to Circuit Breaker in 'Option Panel'.
No internal Branch Circuit Protection per Motor Control Center

MODEL YCAS	FIELD SUPPLIED WIRING			SYSTEM #1			SYSTEM #2		
	MCA[1]	FACTORY SUPPLIED BREAKER		COMPRESSOR		FANS[11, 12]	COMPRESSOR		FANS[11, 12]
		RATING[2]	WIRE RANGE[7] (LUGS)	RLA	X-LRA	FLA (EA)	RLA	X-LRA	FLA (EA)
0373SB	269	400	(2) 3/0-250	107.9	761	4.4	107.9	761	4.4
0403SB	291	450	(2) 3/0-250	117.7	761	4.4	117.7	761	4.4
0453SB	340	500	(2) 3/0-250	139.5	979	4.4	139.5	979	4.4
0503SB	389	600	(3) 2/0-400	161.3	979	4.4	161.3	979	4.4
0543SB	352	500	(2) 3/0-250	140.6	979	4.4	140.6	979	4.4
0573SB	413	600	(3) 2/0-400	167.9	979	4.4	167.9	979	4.4
0623SB	447	700	(3) 2/0-400	183.1	979	4.4	183.1	979	4.4
0653SB	422	600	(3) 2/0-400	167.9	979	4.4	167.9	979	4.4

Option not available for units with CE Mark.

NOTE: Model Numbers 0373SB, 0403SB, 0453SB and 0530SB have three (3) fans per circuit; six (6) total.
Model Numbers 0543SB, 0573SB and 0623SB have four (4) fans per circuit; eight (8) total.
Model Number 0653SB has five (5) fans per circuit; ten (10) total.

NO. OF COMPRESSORS	CONTROL POWER SUPPLY	MCA (MAX LOAD CURRENT)	MAX DUAL ELEMENT FUSE SIZE	NON-FUSED DISCONNECT SWITCH SIZE
2	115V-1Ø	20A	20A	30A
3 or 4 (Non-CE 50/60Hz)	115V-1Ø	30A	30A	30A
3 or 4 (CE 50Hz)	115V-1Ø	25A	30A	30A

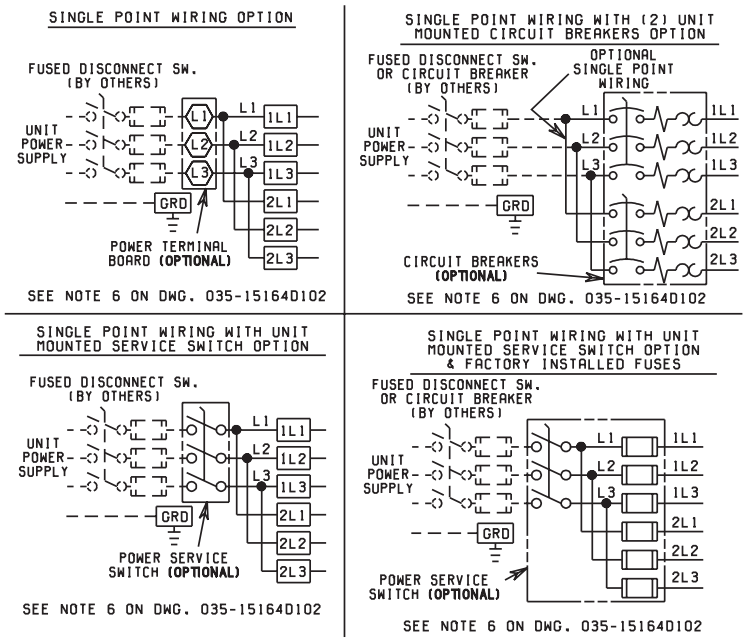
LEGEND

ACR-LINE	ACROSS THE LINE START
CB	CIRCUIT BREAKER
DE FU	DUAL ELEMENT FUSE
DISC SW	DISCONNECT SWITCH
FACT MOUNT CB	FACTORY-MOUNTED CIRCUIT BREAKER
FACT MOUNT FUSE	FACTORY-MOUNTED FUSES
FLA	FULL LOAD AMPS
HZ	HERTZ
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MIN NF	MINIMUM NON-FUSED
RLA	RUNNING LOAD AMPS
S.P. WIRE	SINGLE-POINT WIRING
UNIT MTD SERV SW	UNIT-MOUNTED SERVICE (NON-FUSED DISCONNECT SWITCH)
WYE-DELTA	WYE-DELTA START
XLRA	ACROSS-THE-LINE INRUSH LOCKED ROTOR AMPS
YLRA	WYE-DELTA INRUSH LOCKED ROTOR AMPS

WIRING DIAGRAM
ACROSS-THE-LINE START

NOTES:

1. Field wiring to be in accordance with the current edition of the National Electrical Code as well as all other applicable codes and specifications.
2. Numbers along the right side of a diagram are line identification numbers. The numbers at each line indicate the line number location of relay contacts. An unlined contact location signifies a normally closed contact. Numbers adjacent to circuit lines are the circuit identification numbers.
3. Any customer supplied contacts must be suitable for switching 24VDC. (Gold contacts recommended.) Control Wiring must not be run in the same conduit with any line voltage wiring.
4. To cycle unit on and off automatically with contact shown, install a cycling device in series with the flow switch (FSLW). See Note 3 for contact rating and wiring specifications. Also refer to cautions on the following page.
5. To stop unit (Emergency Stop) with contacts other than those shown, install the stop contact between 5 and 1. If a stop device is not installed, a jumper must be connected between terminals 5 and 1. Device must have a minimum contact rating of 100VA at 115 volts A.C.
6. Alarm contacts are for annunciating alarm/unit malfunction. Contacts are rated at 115V, 100VA, resistive load only, and must be suppressed at load by user.
7. See Installation, Operation and Maintenance Manual when optional equipment is used.
8. Control panel to be securely connected to earth ground.
9. Us 2KVA transformer in optional transformer kit unless there are optional oil separator sump heaters which necessitates using a 3KVA transformer.



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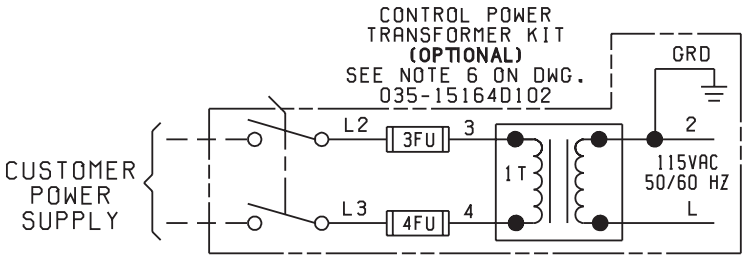

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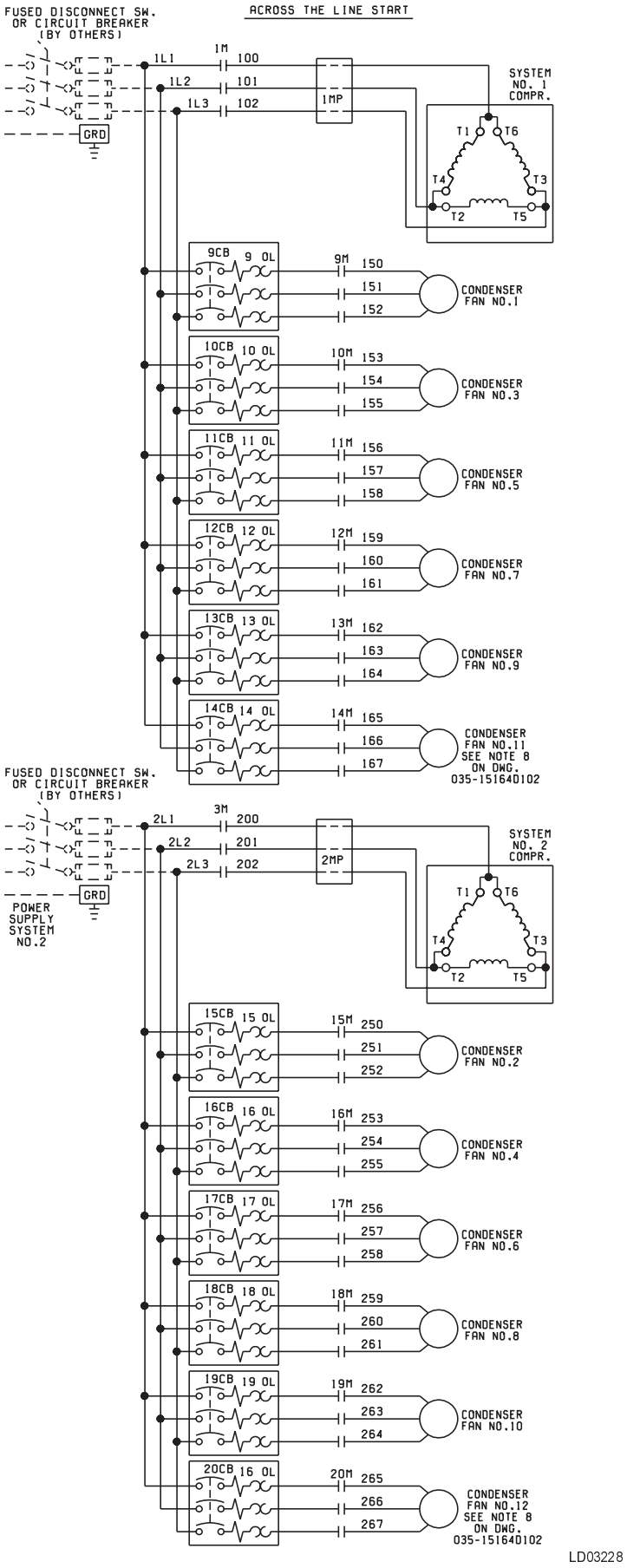
LEGEND

T S	Transient Voltage Suppression
⬡	Terminal Block for Customer Connections
△	Terminal Block for Customer Low Voltage (Class 2) Connections. See Note 2
▭	Terminal Block for YORK Connections Only
———	Wiring and Components by YORK
——–—–	Optional Equipment
— — —	Wiring and/or Components by Others

FIG. 1 – ELEMENTARY DIAGRAM – ACROSS-THE-LINE START

WIRING DIAGRAM
ACROSS-THE-LINE START



ELEMENTARY DIAGRAM

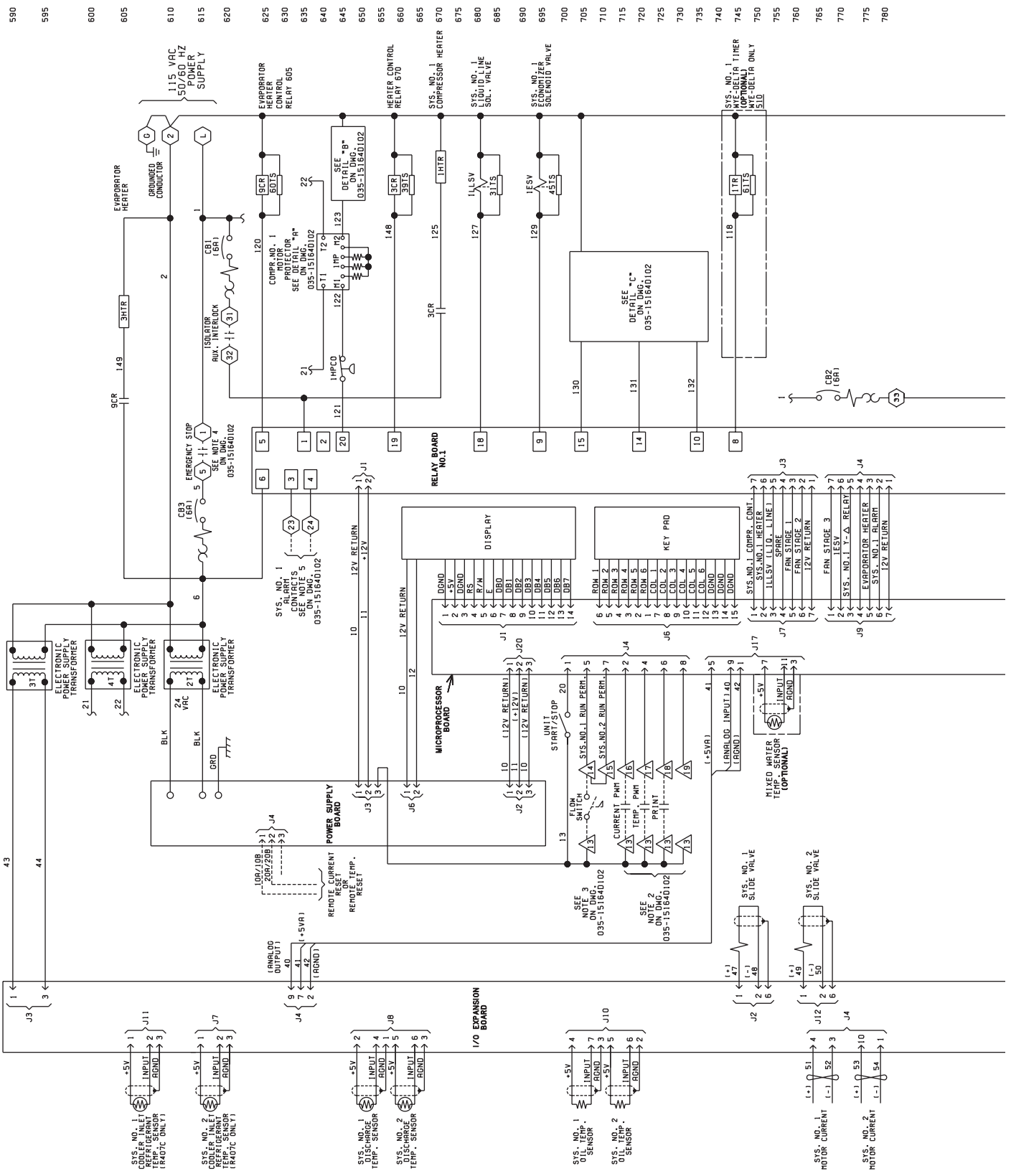
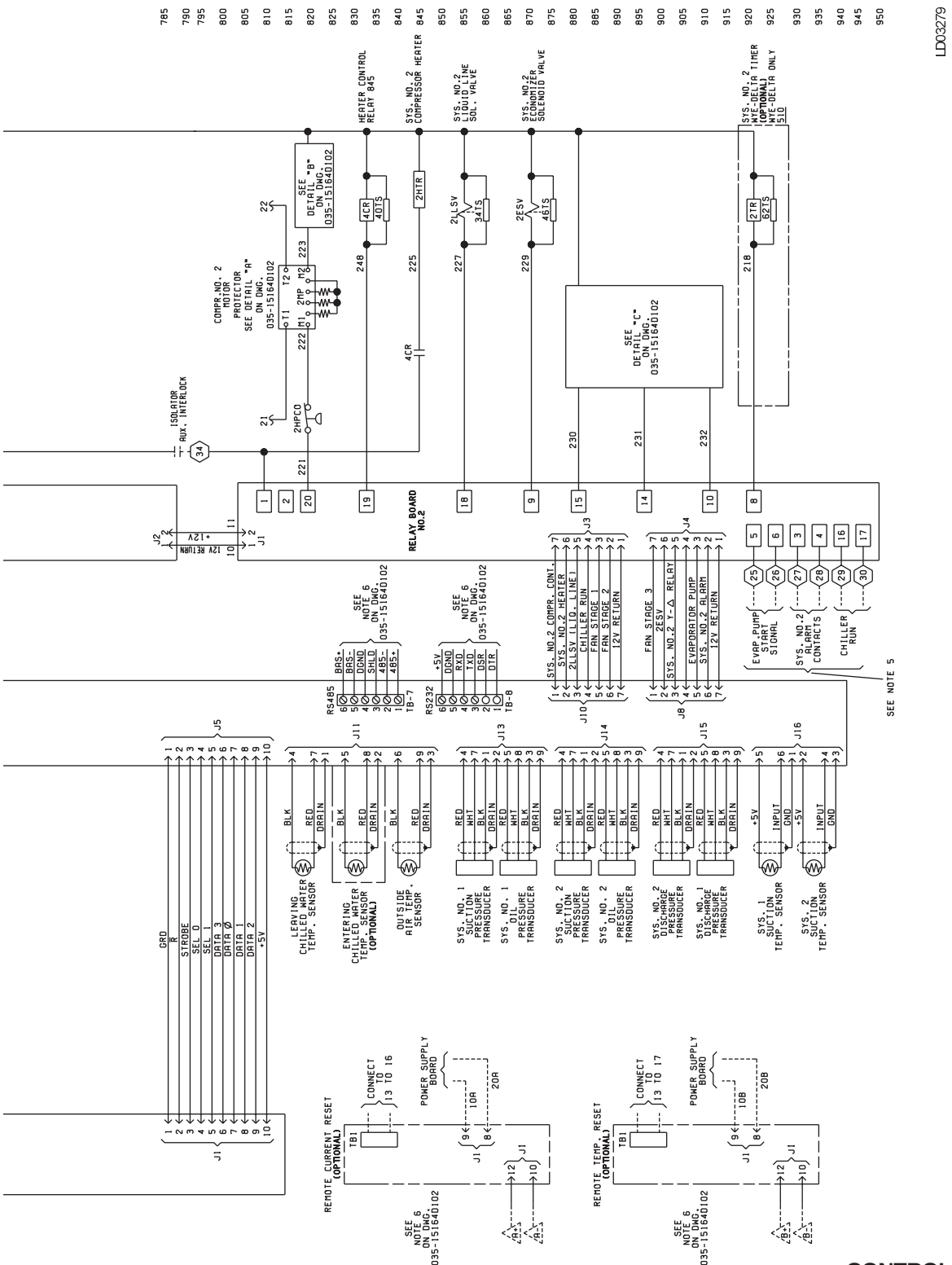


FIG. 1 – CONTINUED

ELEMENTARY DIAGRAM



CAUTION:
No Controls (relays, etc.) should be mounted in the Smart Panel enclosure or connected to power supplies in the control panel. Additionally, control wiring not connected to the Smart Panel should not be run through the cabinet. This could result in nuisance faults.

CAUTION:
Any inductive devices (relays) wired in series with the flow switch for start/stop, into the Alarm circuitry, or pilot relays for pump starters wired through motor contactor auxiliary contacts must be suppressed with YORK P/N 031-00808-000 suppressor across the relay/contactor coil.

Any contacts connected to flow switch inputs or BAS inputs on terminals 13 - 19 or TB3, or any other terminals, must be suppressed with a YORK P/N 031-00808-000 suppressor across the relay/contactor coil.

CAUTION:
Control wiring connected to the control panel should never be run in the same conduit with power wiring.

CONTROL POWER SUPPLY

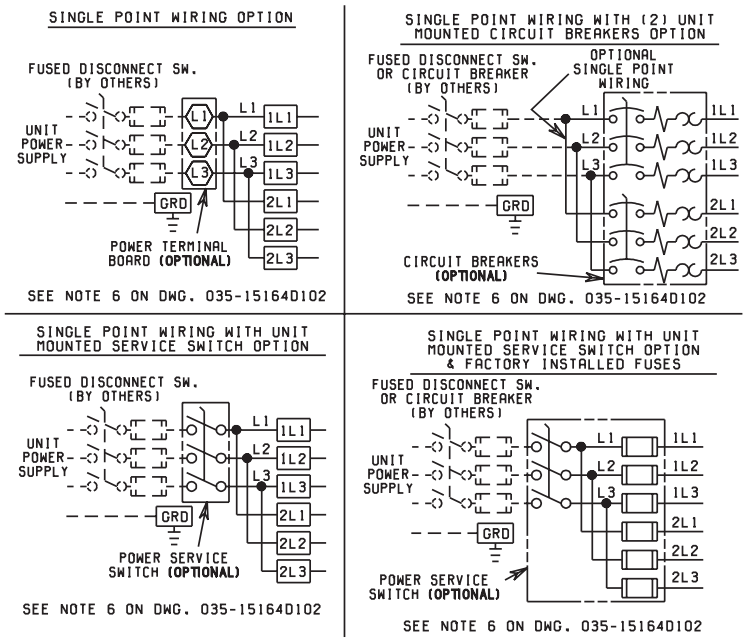
UNIT VOLTAGE		CONTROL POWER SUPPLY	MIN CIRCUIT AMP.	MAX DUAL ELEMENT FUSE SIZE	NON-FUSED DISC. SWITCH SIZE
ALL MODELS W/O TRANS.		115-1-50/60	20A	20A 250V	30A 240V
MODELS	-17	200-1-60	15A	15A 250V	30A 240V
WITH	-28	230-1-60	15A	15A 250V	30A 240V
TRANS.	-46	400-1-60	8A	8A 600V	30A 480V
*	-58	575-1-60	8A	8A 600V	30A 600V

* All primary and secondary wiring between transformer and control panel included.

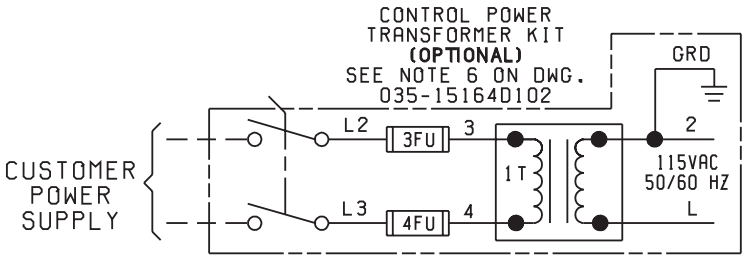
WIRING DIAGRAM
WYE-DELTA START

NOTES:

1. Field wiring to be in accordance with the current edition of the National Electrical Code as well as all other applicable codes and specifications.
2. Numbers along the right side of a diagram are line identification numbers. The numbers at each line indicate the line number location of relay contacts. An unlined contact location signifies a normally closed contact. Numbers adjacent to circuit lines are the circuit identification numbers.
3. Any customer supplied contacts must be suitable for switching 24VDC. (Gold contacts recommended.) Control Wiring must not be run in the same conduit with any line voltage wiring.
4. To cycle unit on and off automatically with contact shown, install a cycling device in series with the flow switch (FSLW). See Note 3 for contact rating and wiring specifications. Also refer to cautions on the following page.
5. To stop unit (Emergency Stop) with contacts other than those shown, install the stop contact between 5 and 1. If a stop device is not installed, a jumper must be connected between terminals 5 and 1. Device must have a minimum contact rating of 100VA at 115 volts A.C.
6. Alarm contacts are for annunciating alarm/unit malfunction. Contacts are rated at 115V, 100VA, resistive load only, and must be suppressed at load by user.
7. See Installation, Operation and Maintenance Manual when optional equipment is used.
8. Control panel to be securely connected to earth ground.
9. Us 2KVA transformer in optional transformer kit unless there are optional oil separator sump heaters which necessitates using a 3KVA transformer.



LD03226



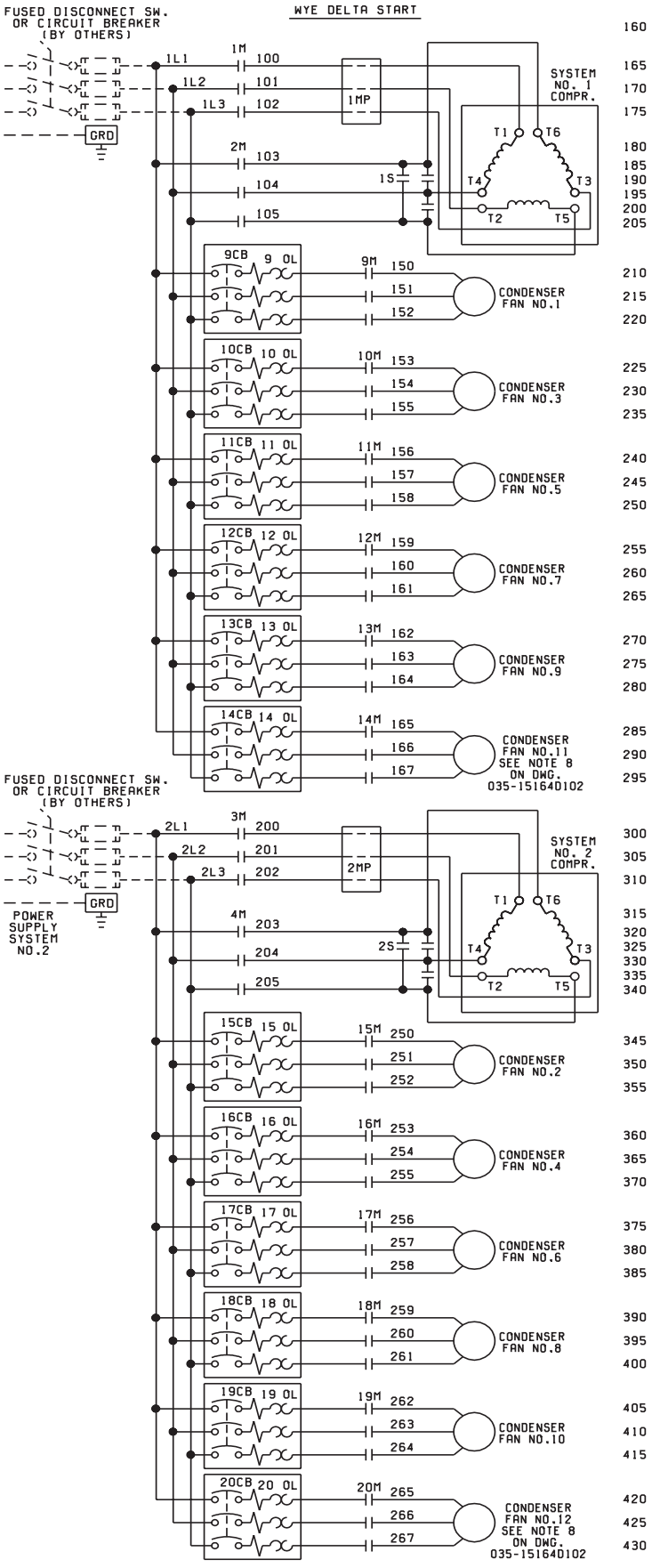
LD03227

LEGEND

T S	Transient Voltage Suppression
⬡	Terminal Block for Customer Connections
△	Terminal Block for Customer Low Voltage (Class 2) Connections. See Note 2
▭	Terminal Block for YORK Connections Only
———	Wiring and Components by YORK
——–—–	Optional Equipment
— — —	Wiring and/or Components by Others

FIG. 2 – ELEMENTARY DIAGRAM – WYE-DELTA START

WIRING DIAGRAM
WYE-DELTA START



LD03229

ELEMENTARY DIAGRAM

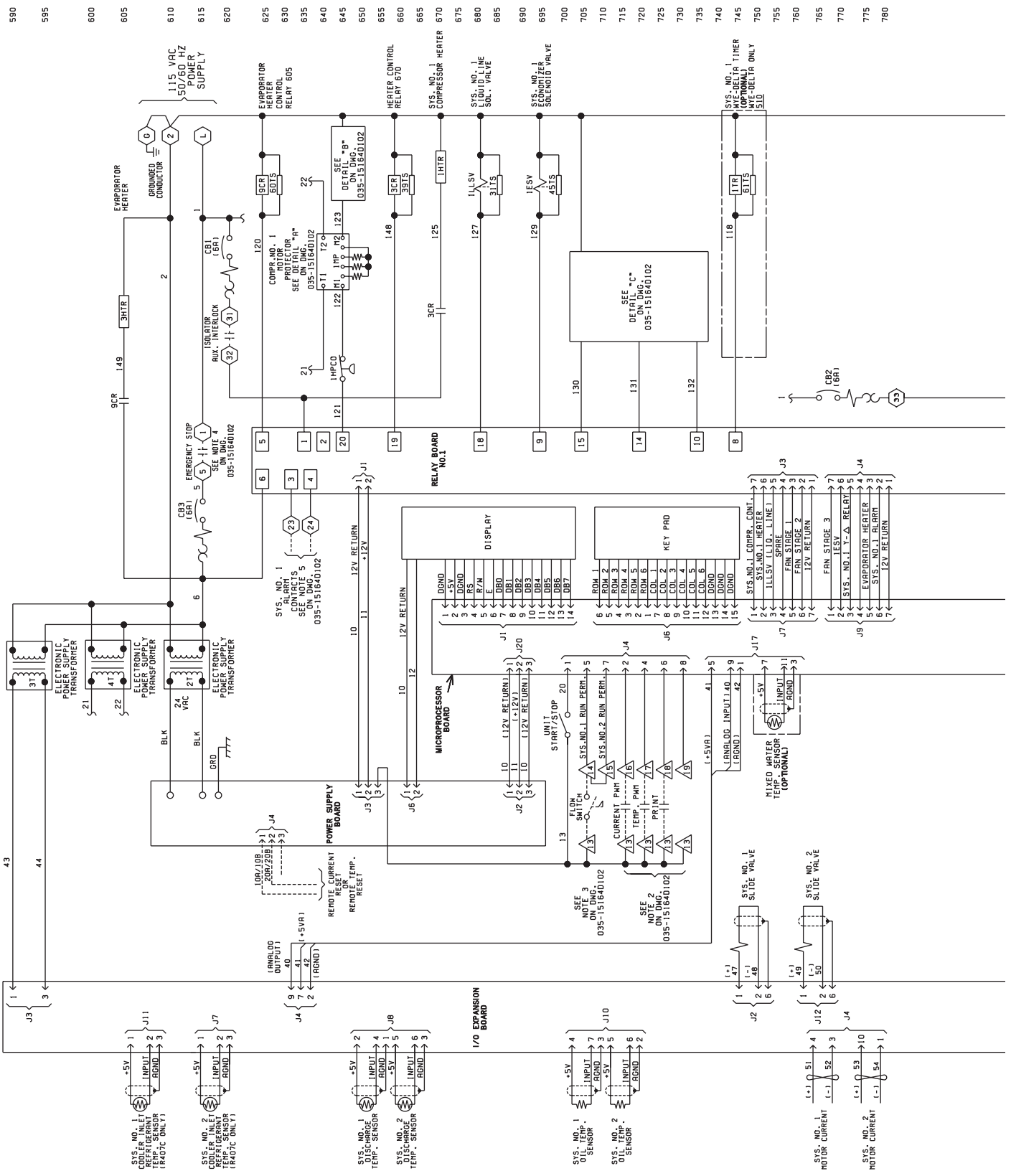
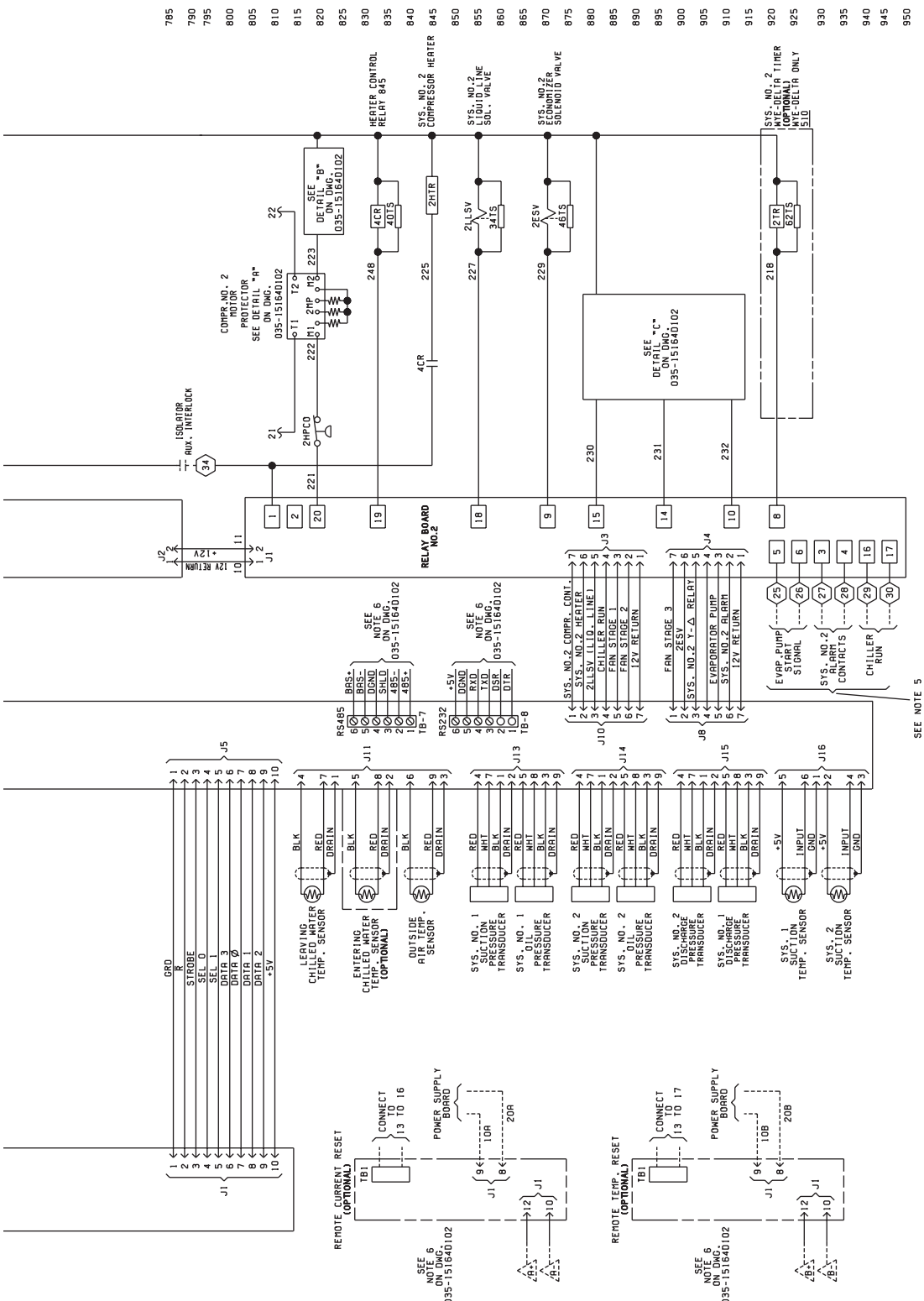


FIG. 2 – CONTINUED

ELEMENTARY DIAGRAM



CAUTION:
No Controls (relays, etc.) should be mounted in the Smart Panel enclosure or connected to power supplies in the control panel. Additionally, control wiring not connected to the Smart Panel should not be run through the cabinet. This could result in nuisance faults.

CAUTION:
Any inductive devices (relays) wired in series with the flow switch for start/stop, into the Alarm circuitry, or pilot relays for pump starters wired through motor contactor auxiliary contacts must be suppressed with YORK P/N 031-00808-000 suppressor across the relay/contactor coil.

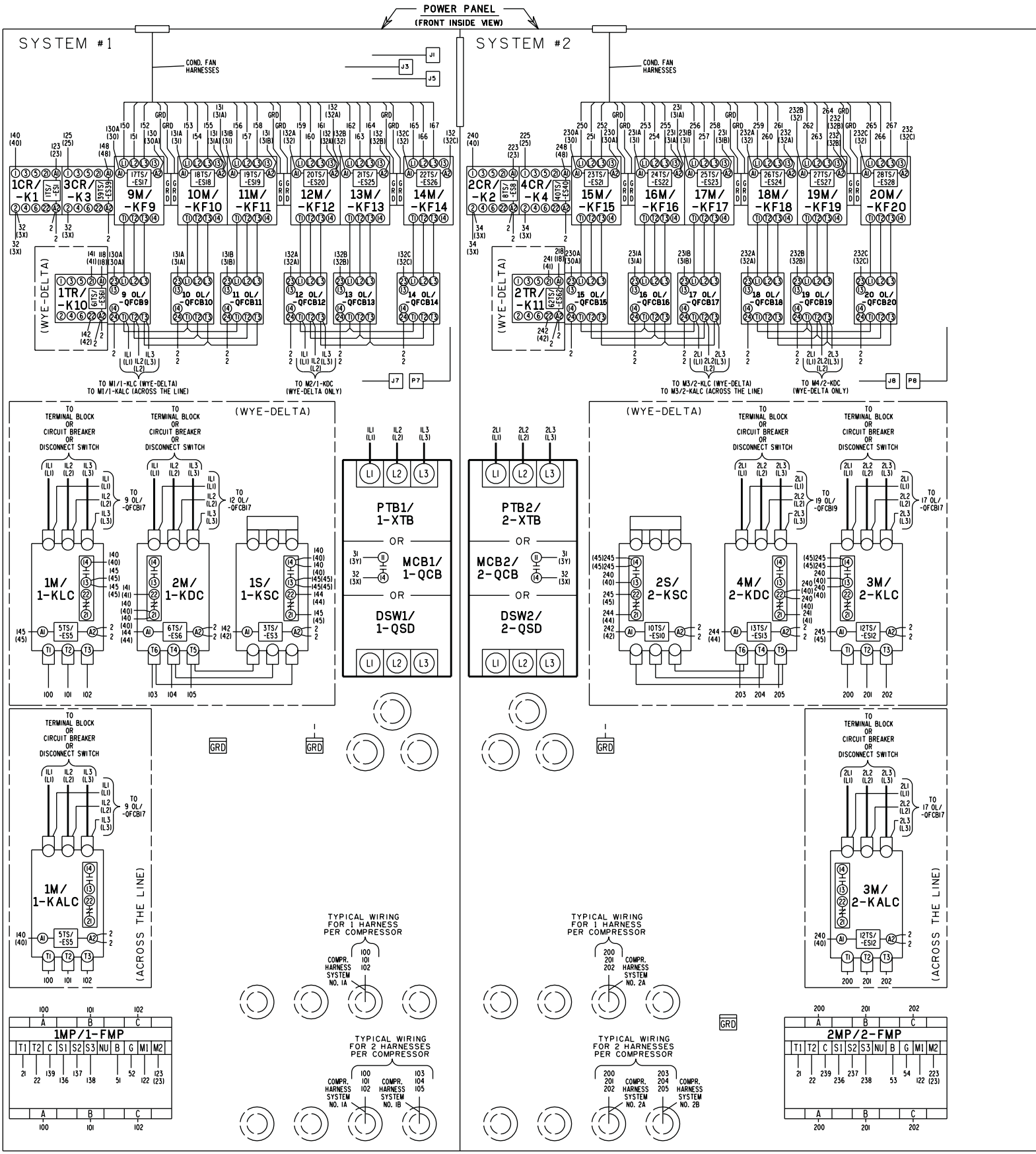
Any contacts connected to flow switch inputs or BAS inputs on terminals 13 - 19 or TB3, or any other terminals, must be suppressed with a YORK P/N 031-00808-000 suppressor across the relay/contactor coil.

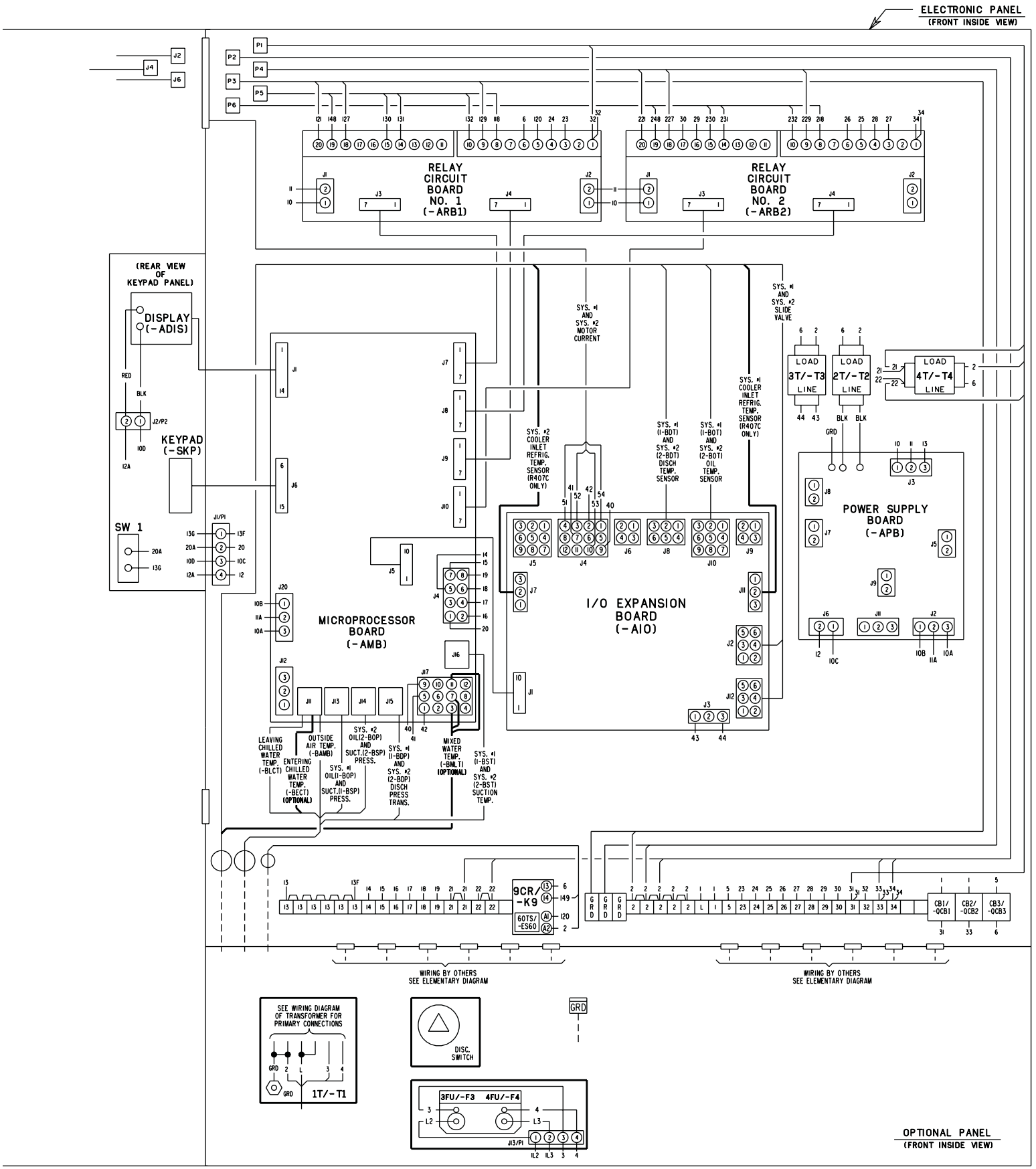
CAUTION:
Control wiring connected to the control panel should never be run in the same conduit with power wiring.

CONTROL POWER SUPPLY

UNIT VOLTAGE		CONTROL POWER SUPPLY	MIN CIRCUIT AMP.	MAX DUAL ELEMENT FUSE SIZE	NON-FUSED DISC. SWITCH SIZE
ALL MODELS W/O TRANS.		115-1-50/60	20A	20A 250V	30A 240V
MODELS	-17	200-1-60	15A	15A 250V	30A 240V
WITH	-28	230-1-60	15A	15A 250V	30A 240V
TRANS.	-46	400-1-60	8A	8A 600V	30A 480V
*	-58	575-1-60	8A	8A 600V	30A 600V

* All primary and secondary wiring between transformer and control panel included.


POWER PANEL
(FRONT INSIDE VIEW)
SYSTEM #1
SYSTEM #2
COND. FAN HARNESSES
1CR/ -K1
3CR/ -K3
9M/ -KF9
10M/ -KF10
11M/ -KF11
12M/ -KF12
13M/ -KF13
14M/ -KF14
1TR/ -K10
9 OL/ -QFCB9
10 OL/ -QFCB10
11 OL/ -QFCB11
12 OL/ -QFCB12
13 OL/ -QFCB13
14 OL/ -QFCB14
2CR/ -K2
4CR/ -K4
15M/ -KF15
16M/ -KF16
17M/ -KF17
18M/ -KF18
19M/ -KF19
20M/ -KF20
2TR/ -K11
15 OL/ -QFCB15
16 OL/ -QFCB16
17 OL/ -QFCB17
18 OL/ -QFCB18
19 OL/ -QFCB19
20 OL/ -QFCB20
(WYE-DELTA)
TO M1/1-KLC (WYE-DELTA)
TO M1/1-KALC (ACROSS THE LINE)
TO M2/1-KDC (WYE-DELTA ONLY)
TO M3/2-KLC (WYE-DELTA)
TO M3/2-KALC (ACROSS THE LINE)
TO M4/2-KDC (WYE-DELTA ONLY)
PTB1/ 1-XTB
MCB1/ 1-QCB
DSW1/ 1-QSD
PTB2/ 2-XTB
MCB2/ 2-QCB
DSW2/ 2-QSD
1M/ 1-KLC
2M/ 1-KDC
1S/ 1-KSC
1M/ 1-KALC
2S/ 2-KSC
4M/ 2-KDC
3M/ 2-KLC
3M/ 2-KALC
TO TERMINAL BLOCK OR CIRCUIT BREAKER OR DISCONNECT SWITCH
TYPICAL WIRING FOR 1 HARNESS PER COMPRESSOR
TYPICAL WIRING FOR 2 HARNESSES PER COMPRESSOR
COMPR. HARNESS SYSTEM NO. 1A
COMPR. HARNESS SYSTEM NO. 1B
COMPR. HARNESS SYSTEM NO. 2A
COMPR. HARNESS SYSTEM NO. 2B
1MP/1-FMP
2MP/2-FMP


ELECTRONIC PANEL
(FRONT INSIDE VIEW)
RELAY CIRCUIT BOARD NO. 1 (-ARB1)
RELAY CIRCUIT BOARD NO. 2 (-ARB2)
(REAR VIEW OF KEYPAD PANEL)
DISPLAY (-ADIS)
KEYPAD (-SKP)
SW 1
MICROPROCESSOR BOARD (-AMB)
I/O EXPANSION BOARD (-AIO)
POWER SUPPLY BOARD (-APB)
SYS. #2 COOLER INLET REFRIG. TEMP. SENSOR (R407C ONLY)
SYS. #1 AND SYS. #2 MOTOR CURRENT
SYS. #1 (1-BDT) AND SYS. #2 (2-BDT) DISCH TEMP. SENSOR
SYS. #1 (1-BOT) AND SYS. #2 (2-BOT) OIL TEMP. SENSOR
SYS. #1 AND SYS. #2 SLIDE VALVE
SYS. #1 COOLER INLET REFRIG. TEMP. SENSOR (R407C ONLY)
LOAD 3T/-T3 LINE
LOAD 2T/-T2 LINE
LOAD 4T/-T4 LINE
LEAVING CHILLED WATER TEMP. (-BLCT)
ENTERING CHILLED WATER TEMP. (-BECT) (OPTIONAL)
OUTSIDE AIR TEMP. (-BAMB)
SYS. #1 OIL(1-BOP) AND SUCT.(1-BSP) PRESS.
SYS. #2 OIL(2-BOP) AND SUCT.(2-BSP) PRESS.
SYS. #1 (1-BDP) AND SYS. #2 (2-BDP) DISCH PRESS TRANS.
MIXED WATER TEMP. (-BMLT) (OPTIONAL)
SYS. #1 (1-BST) AND SYS. #2 (2-BST) SUCTION TEMP.
9CR/-K9
60TS/-ES60
CB1/-QCB1
CB2/-QCB2
CB3/-QCB3
WIRING BY OTHERS SEE ELEMENTARY DIAGRAM
WIRING BY OTHERS SEE ELEMENTARY DIAGRAM
SEE WIRING DIAGRAM OF TRANSFORMER FOR PRIMARY CONNECTIONS
1T/-T1
DISC. SWITCH
3FU/-F3 4FU/-F4
OPTIONAL PANEL
(FRONT INSIDE VIEW)

LD03280

LEGEND

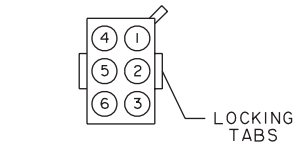
1CR THRU 4CR, 9CR/ -K1 THRU -K4, -K9	-CONTROL RELAYS
CB1, CB2, CB3/ -QCB1,-QBC2,-QCB3	-CIRCUIT BREAKERS
9CB THRU 14CB	-OVERLOAD CIRCUIT BREAKERS (SYS. #1)
15CB THRU 20CB	-OVERLOAD CIRCUIT BREAKERS (SYS. #2)
9 OL THRU 14 OL	-MOTOR OVERLOADS (SYS. #1)
15 OL THRU 20 OL	-MOTOR OVERLOADS (SYS. #2)
-QFCB9 THRU -QFCB14	-MOTOR OVERLOADS W/OVERLOAD CIRCUIT BREAKERS (SYS. #1)
-QFCB15 THRU -QFCB20	-MOTOR OVERLOADS W/OVERLOAD CIRCUIT BREAKERS (SYS. #2)
3FU, 4FU/ -F3, -F4	-TRANSFORMER FUSE (OPTIONAL)
1M, 3M/ 1-KLC OR 1-KALC, 2-KLC OR 2-KALC	-COMPRESSOR CONTACTORS
2M, 4M/ 1-KDC, 2-KDC	-COMPRESSOR CONTACTORS
1S, 2S/ 1-KSC, 2-KSC	-COMPRESSOR CONTACTORS
9M THRU 14M/ -KF9 THRU -KF14	-CONDENSER FAN CONTACTORS (SYS. #1)
15M THRU 20M/ -KF15 THRU -KF20	-CONDENSER FAN CONTACTORS (SYS. #2)
1MP/1-FMP	-MOTOR PROTECTOR (SYS. #1)
2MP/2-FMP	-MOTOR PROTECTOR (SYS. #2)
1T/-T1	-CONTROL TRANSFORMER 2KVA (OPTIONAL)
2T, 3T, 4T/ -T2, -T3, -T4	-MICRO PANEL TRANSFORMERS
1TR, 2TR/ -K10, -K11	-TIMER RELAYS
TS/-ES	-TRANSIENT SUPPRESSORS
PTB1, PTB2/ 1-XTB, 2-XTB	-POWER TERMINAL BLOCK
MCB1, MCB2/ 1-QCB, 2-QCB	-MOTOR CIRCUIT BREAKER
DSW1, DSW2/ 1-QSD, 2-QSD	-DISCONNECT SERVICE SWITCH
———	-WIRING BY YORK
— — — —	-WIRING BY OTHERS
———	-OPTIONAL WIRING AND/OR COMPONENTS

CONNECTION DIAGRAM, ELEC. BOX DXST DIRECT DRIVE

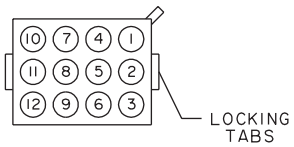
J1, J2, J3, J4, J5, J6, J7, J8, P7 & P8 — POWER PANEL

P1, P2, P3, P4, P5, & P6 — ELECTRONIC (MICRO) PANEL

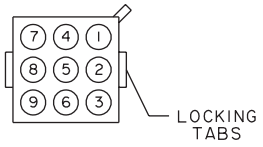
NOTE: WIRE NUMBERS IDENTIFIED IN (PARENTHESIS) INDICATE THE ACTUAL HARNESS CODE STAMPED ON THE WIRE.



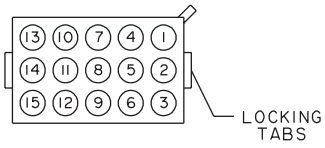
HOUSING - CONNECTOR (J1,J2,J5, & J6) WIRING END



HOUSING - CONNECTOR (J3) WIRING END



HOUSING - CONNECTOR (J7 & J8) WIRING END



HOUSING - CONNECTOR (J4) WIRING END

PLUG NO.	WIRE NO.	PLUG PIN NO.
P1	21	1
	2	2
	22	3
	31	4
	32	5

PLUG NO.	WIRE NO.	PLUG PIN NO.
P2	21	1
	2	2
	22	3
	33	4
	34	5

PLUG NO.	WIRE NO.	PLUG PIN NO.
P3	2	1
	GRD	2
	129	5
	127	6
	121	11

PLUG NO.	WIRE NO.	PLUG PIN NO.
P4	2	1
	GRD	2
	227	4
	229	5
	221	11

PLUG NO.	WIRE NO.	PLUG PIN NO.
P5	130	1
	131	2
	132	3
	148	4
	118	6

PLUG NO.	WIRE NO.	PLUG PIN NO.
P6	230	1
	231	2
	232	3
	248	4
	218	6

PLUG NO.	WIRE NO.	PLUG PIN NO.
P7	125	1
	2	2
	123	3
	140	4
	141	5
	142	6
	32	7

PLUG NO.	WIRE NO.	PLUG PIN NO.
P8	225	1
	2	2
	223	3
	240	4
	241	5
	242	6
	34	7

PLUG NO.	WIRE NO.	PLUG PIN NO.
J1	21	1
	2	2
	22	3
	3Y	4
	3X	5

PLUG NO.	WIRE NO.	PLUG PIN NO.
J2	21	1
	2	2
	22	3
	3Y	4
	3X	5

PLUG NO.	WIRE NO.	PLUG PIN NO.
J3	2	1
	GRD	2
	125	4
	129	5
	127	6
	121	11
	122	12

PLUG NO.	WIRE NO.	PLUG PIN NO.
J4	2	1
	GRD	2
	225	3
	227	4
	229	5
	221	11
	122	12

PLUG NO.	WIRE NO.	PLUG PIN NO.
J5	30	1
	31	2
	32	3
	48	4
	18	6

PLUG NO.	WIRE NO.	PLUG PIN NO.
J6	30	1
	31	2
	32	3
	48	4
	18	6

PLUG NO.	WIRE NO.	PLUG PIN NO.
J7	25	1
	2	2
	23	3
	40	4
	41	5
	42	6
	3X	7

PLUG NO.	WIRE NO.	PLUG PIN NO.
J8	25	1
	2	2
	23	3
	40	4
	41	5
	42	6
	3X	7

LD03281

NOTES:

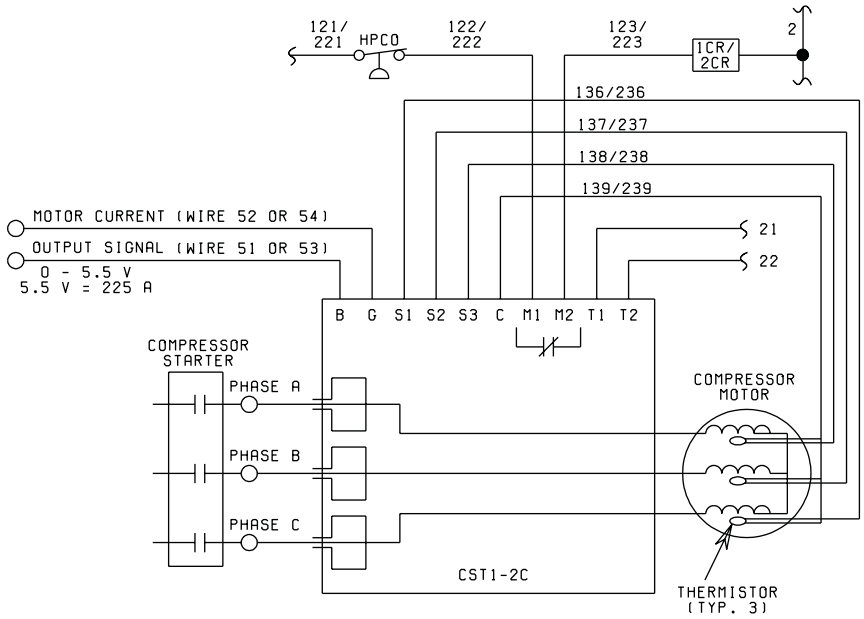
1. FIELD WIRING TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ALL OTHER APPLICABLE CODES AND SPECIFICATIONS.
2. CONTACTS MUST BE SUITABLE FOR SWITCHING 24VDC. (GOLD CONTACTS RECOMMENDED). WIRING SHALL NOT BE RUN IN THE SAME CONDUIT WITH ANY LINE VOLTAGE (CLASS I) WIRING.
3. TO CYCLE UNIT ON AND OFF AUTOMATICALLY WITH CONTACT SHOWN, INSTALL A CYCLING DEVICE IN SERIES WITH THE FLOW SWITCH. SEE NOTE 2 FOR CONTACT RATING AND WIRING SPECIFICATIONS.
4. TO STOP UNIT (EMERGENCY STOP) WITH CONTACTS OTHER THAN THOSE SHOWN, INSTALL THE STOP CONTACT BETWEEN TERMINALS 5 AND 1. IF A STOP DEVICE IS NOT INSTALLED, A JUMPER MUST BE CONNECTED BETWEEN TERMINALS 5 AND 1. DEVICE MUST HAVE A MINIMUM CONTACT RATING OF 6A AT 115VOLTS A.C.
5. CONTACTS ARE RATED AT 115V, 100VA, RESISTIVE LOAD ONLY, AND MUST BE SUPPRESSED AT LOAD BY USER.
6. SEE INSTALLATION, OPERATION AND MAINTENANCE MANUAL WHEN OPTIONAL EQUIPMENT IS USED.

LD03282

LEGEND

TS	TRANSIENT VOLTAGE SUPRESSION
⬡	TERMINAL BLOCK FOR CUSTOMER CONNECTIONS
△	TERMINAL BLOCK FOR CUSTOMER LOW VOLTAGE (CLASS 2) CONNECTIONS. SEE NOTE 2.
▭	TERMINAL BLOCK FOR YORK CONNECTIONS ONLY
———	WIRING AND COMPONENTS BY YORK
——-——	OPTIONAL EQUIPMENT
— — — —	WIRING AND/OR COMPONENTS BY OTHERS

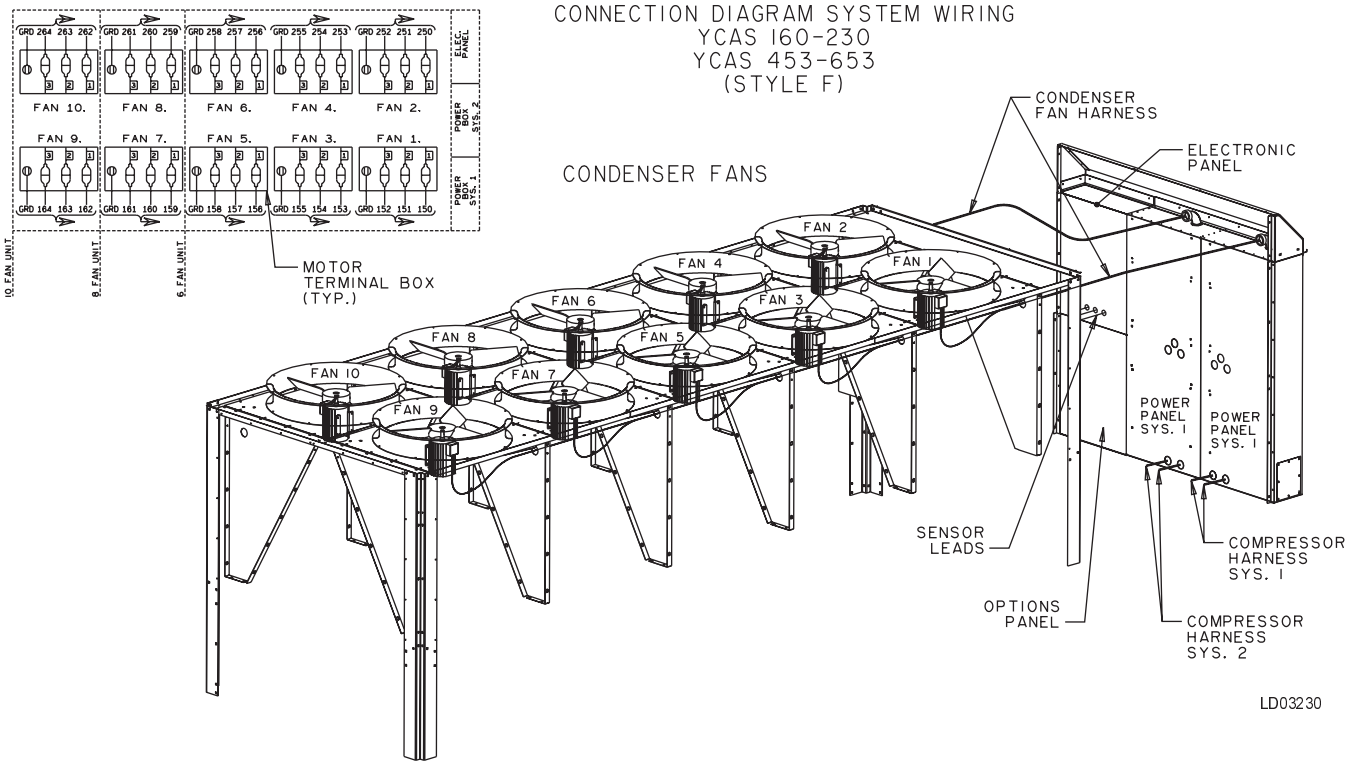
LD03283



DETAIL "A"

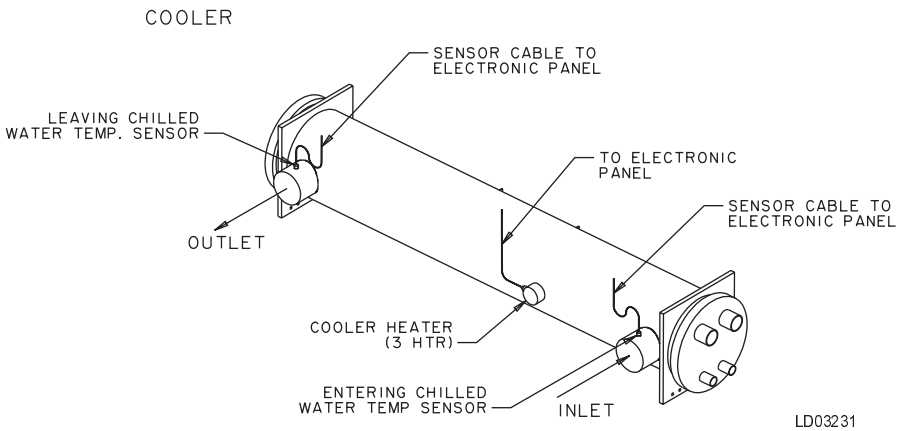
LD03284

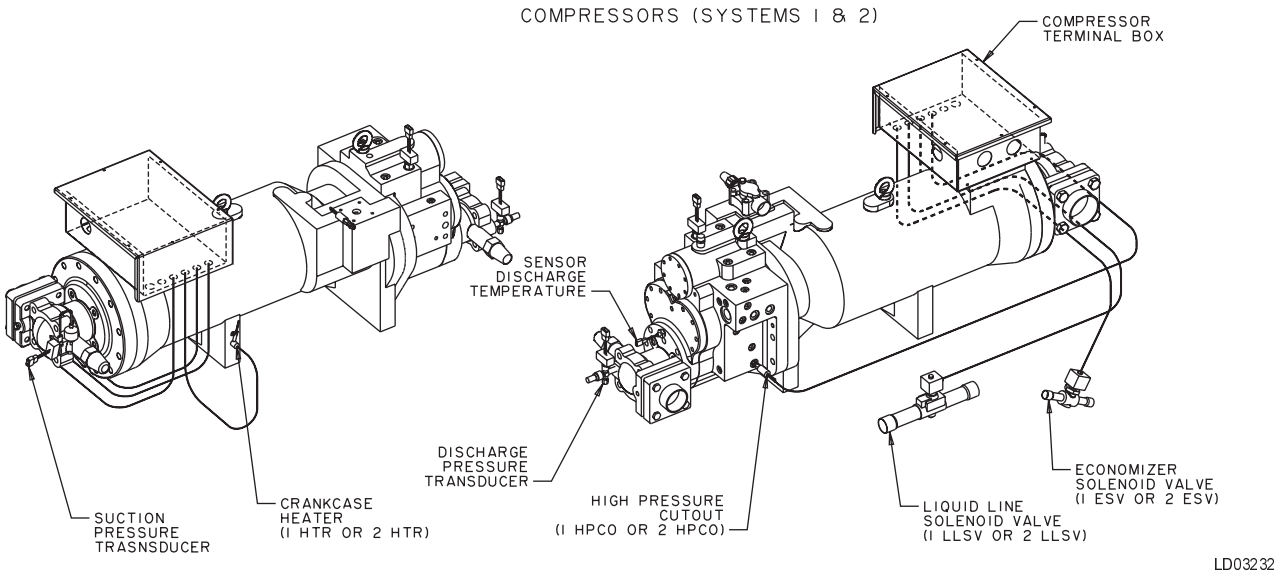
CONNECTION DIAGRAM (SYSTEM WIRING)



LEGEND

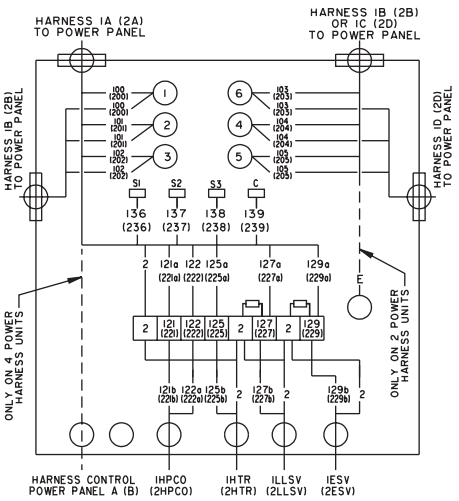
1 HPCO	SYS. No.1 HIGH PRESS. CUTOUT
2 HPCO	SYS. No.2 HIGH PRESS. CUTOUT
1 HTR	SYS. No.1 COMPR. CRANKCASE HEATER
2 HTR	SYS. No.2 COMPR. CRANKCASE HEATER
3 HTR	COOLER HEATER
1 LLSV	SYS. No.1 LIQUID LINE SOLENOID VALVE (UNIT IDENT)
2 LLSV	SYS. No.2 LIQUID LINE SOLENOID VALVE (UNIT IDENT)
1 ESV	ECONOMIZER SOLENOID VALVE (UNIT IDENT)
2 ESV	ECONOMIZER SOLENOID VALVE (UNIT IDENT)
TXV 1	SYS. No.1 THERMAL EXPANSION VALVE (UNIT IDENT)
TXV 2	SYS. No.2 THERMAL EXPANSION VALVE (UNIT IDENT)



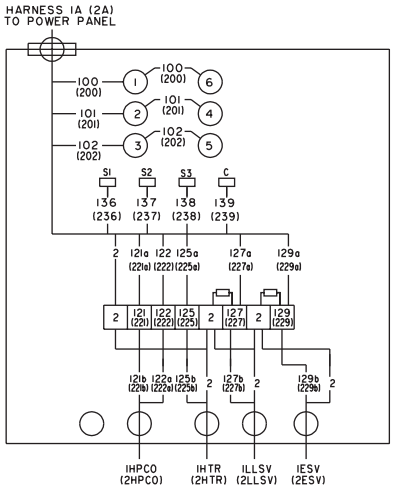


COMPRESSOR TERMINAL BOX

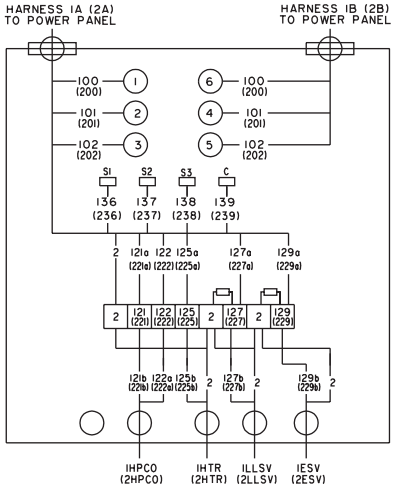
SYSTEM 1 & 2 WYE-DELTA-START
2 & 4 POWER HARNESS UNITS



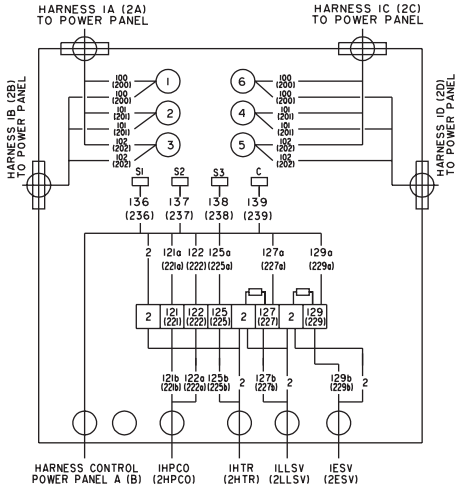
SYSTEM 1 & 2 ACROSS THE LINE
1 POWER HARNESS UNITS



SYSTEM 1 & 2 ACROSS THE LINE
2 POWER HARNESS UNITS



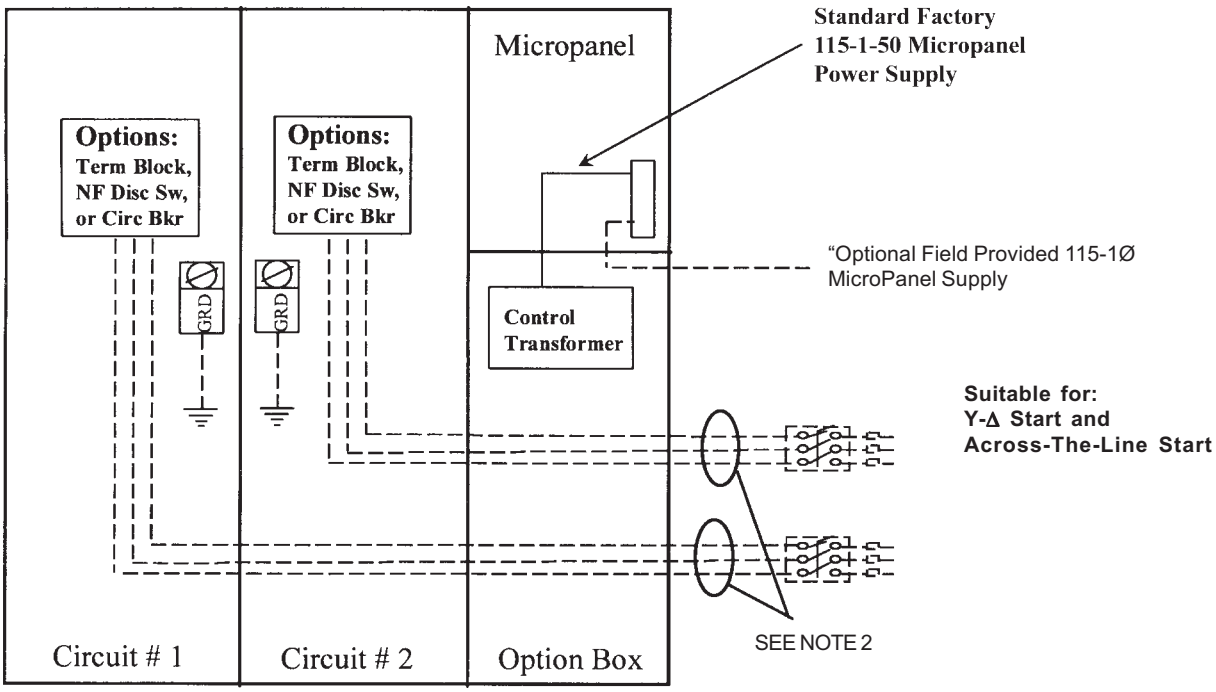
SYSTEM 1 & 2 ACROSS THE LINE
4 POWER HARNESS UNITS



LD03233

STYLE "F" 2 COMPRESSOR POWER WIRING CONNECTIONS

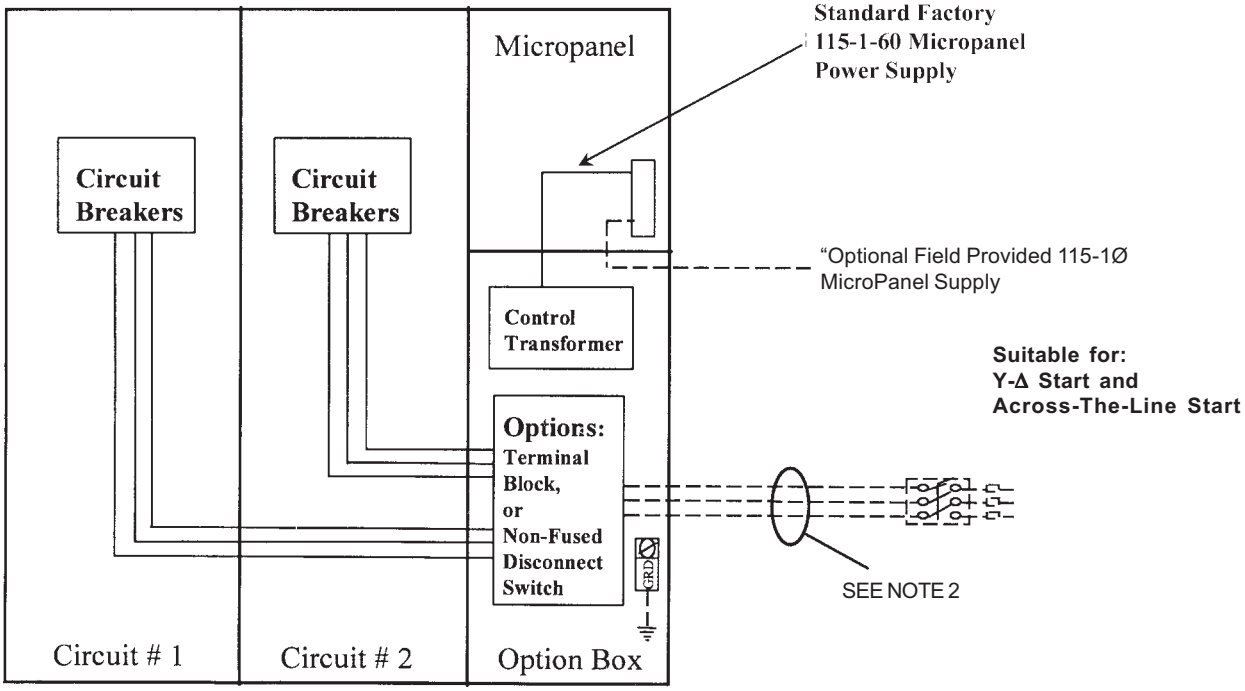
MULTIPLE POINT POWER SUPPLY CONNECTION – STANDARD UNIT



See page 25 for notes.

LD04106

OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION AND INTERNAL UNIT CIRCUIT BREAKERS

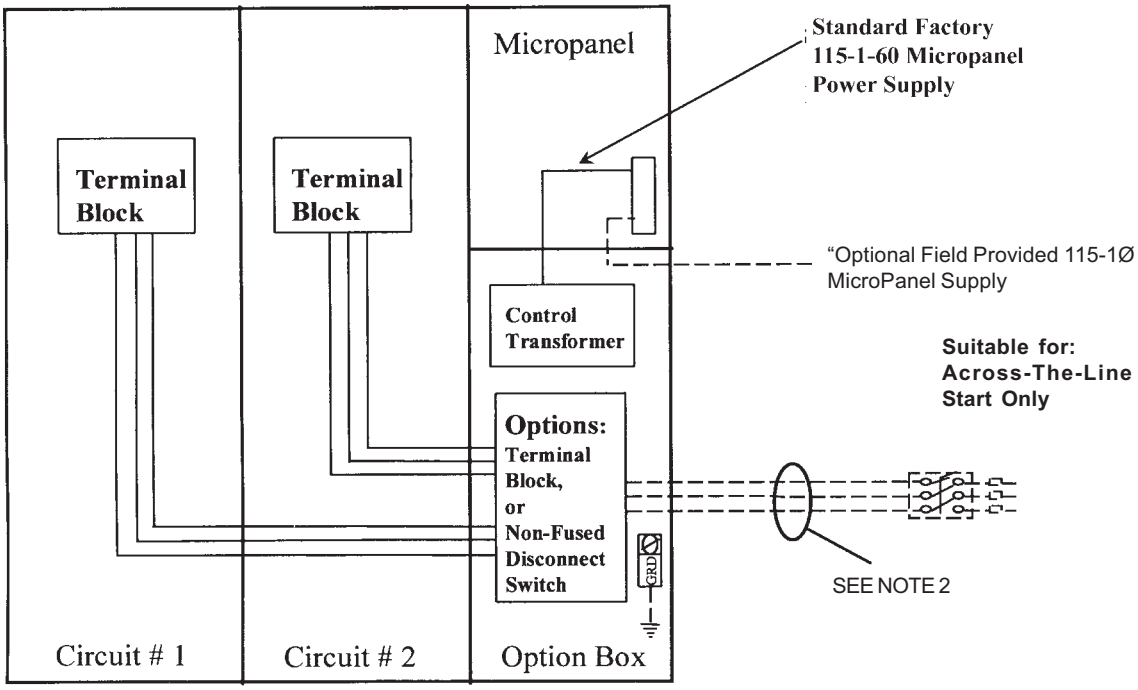


See page 25 for notes.

LD04107

STYLE "F" 2 COMPRESSOR POWER WIRING CONNECTIONS

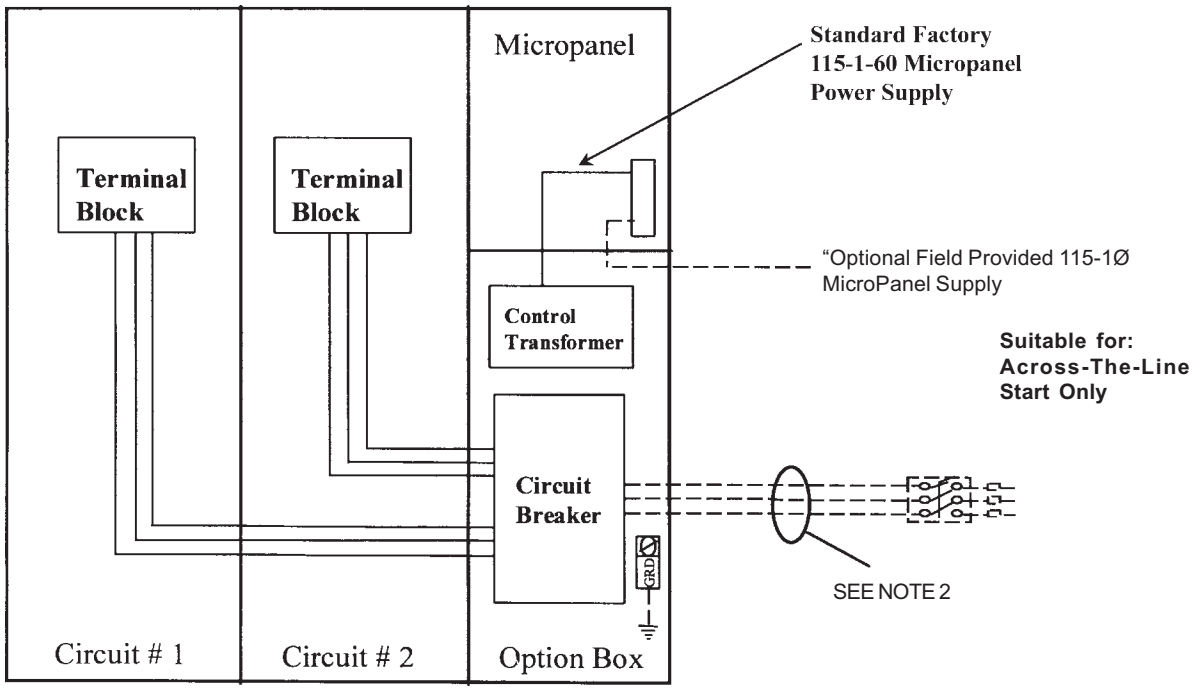
OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION WITH FIELD SUPPLIED CIRCUIT PROTECTION



See page 25 for notes.

LD04108

OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION TO FACTORY CIRCUIT BREAKER



See page 25 for notes.

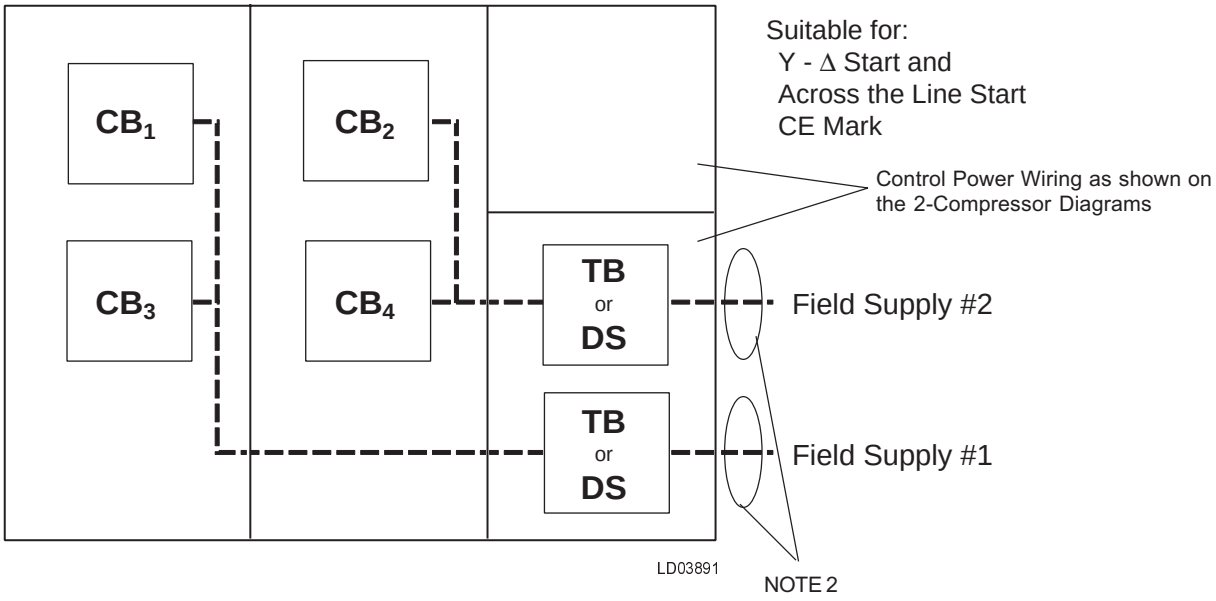
LD04109

NOTES:

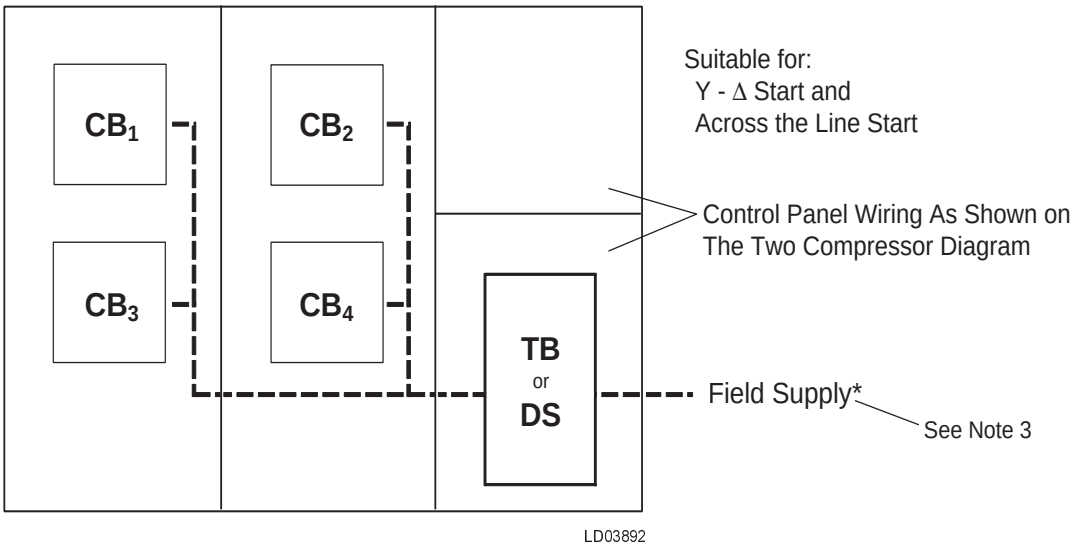
1. – – – – – – – Dashed Line indicates Field Provided Wiring.
2. The above recommendations are based on the National Electric Code and using copper connectors only. Field wiring must also comply with local codes.

3 & 4 COMPRESSOR POWER CONNECTION OPTIONS

MULTIPLE POINT POWER SUPPLY CONNECTION WITH OPTIONAL CIRCUIT BREAKERS

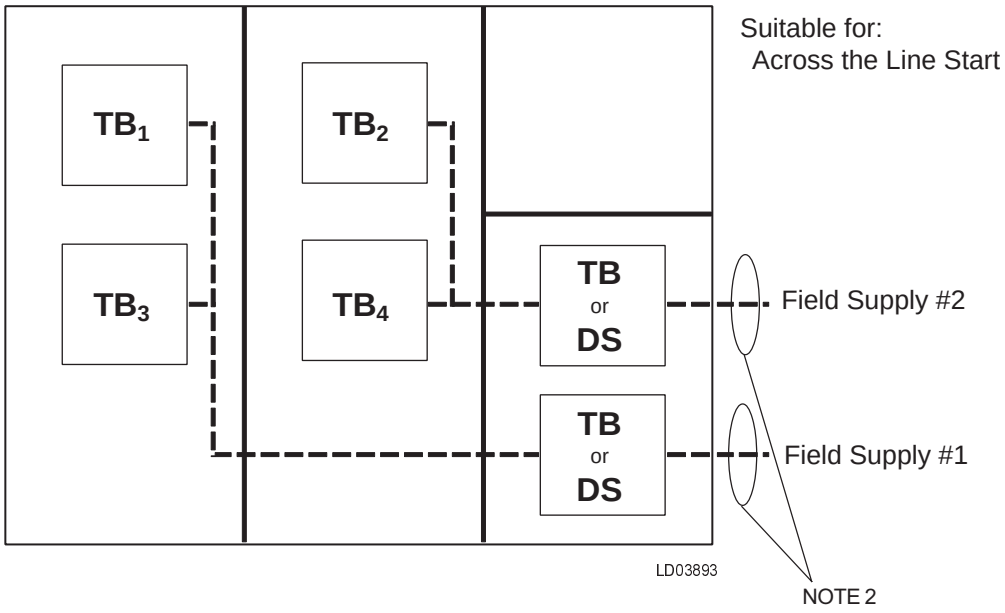


OPTIONAL SINGLE-POINT POWER SUPPLY CONNECTION AND INTERNAL UNIT CIRCUIT BREAKERS



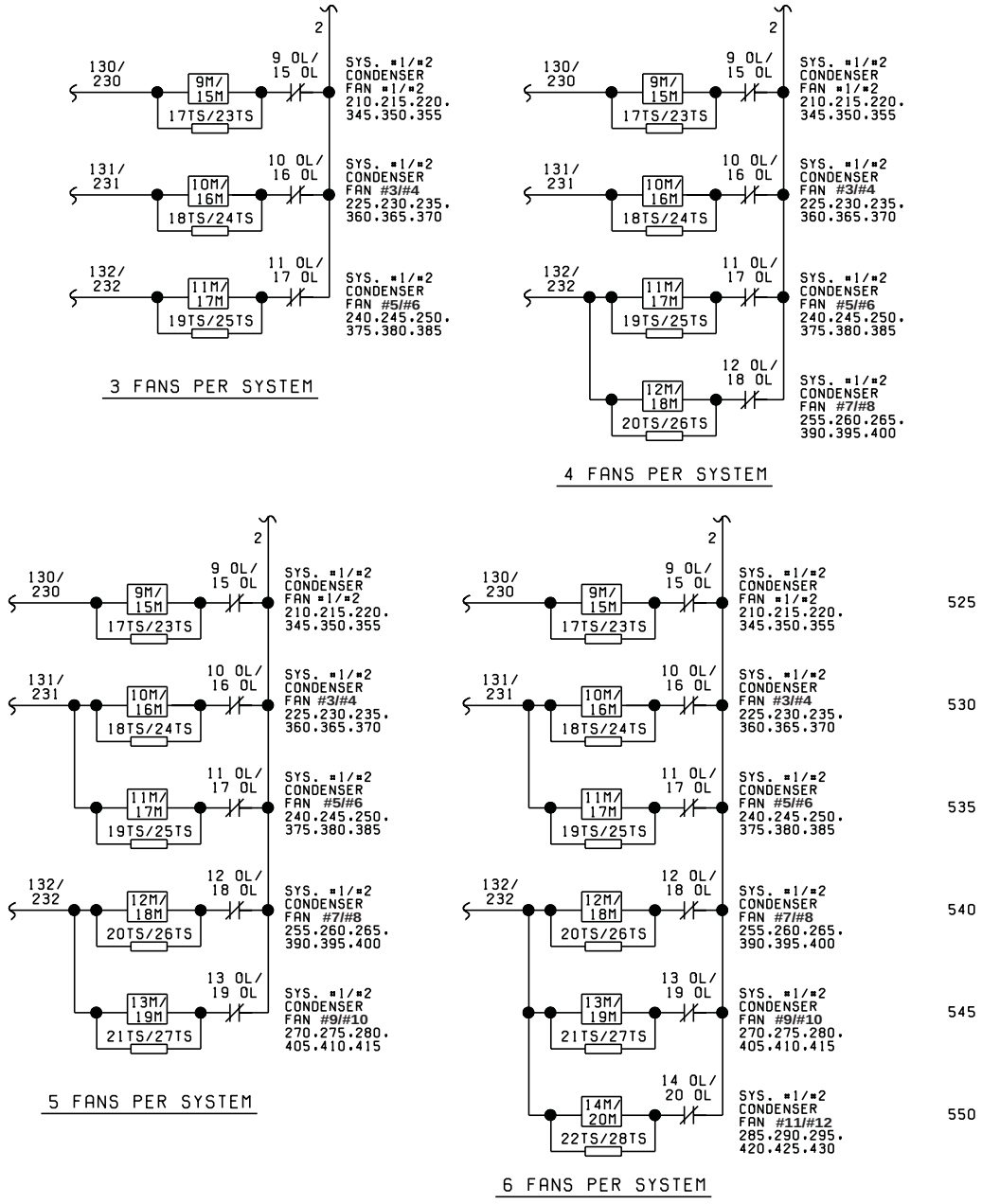
3 & 4 COMPRESSOR POWER CONNECTION OPTIONS

MULTIPLE POINT POWER SUPPLY CONNECTION



NOTES:

1. – – – – – – – Dashed Line indicates Field Provided Wiring.
2. The above recommendations are based on the National Electrical Code and using copper connectors only. Field wiring must also comply with local codes.



DETAIL "C"

SEE ENGINEERING GUIDE OR INSTALLATION, OPERATION AND MAINTENANCE MANUAL FOR NUMBER OF CONDENSER FANS FOR CHILLER MODEL.

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Form 201.18-W2 (599)
Supersedes: Nothing