YORK BY JOHNSON CONTROLS	Supersedes: 160.67-PW4 (904) Form: 160.67-PW4 (914)
WIRING DIAGRAMS	**MODEL YST STEAM TURBINE DRIVE CENTRIFUGAL LIQUID CHILLERS FLOOR MOUNTED STEAM CONDENSER DESIGN LEVEL F AND G**

CONTRACTOR _____	PURCHASER _____
ORDER NO. _____	JOB NAME _____
JCI CONTRACT NO. _____	LOCATION _____
JCI ORDER NO. _____	ENGINEER _____

☐ REFERENCE DATE _____	☐ APPROVAL DATE _____	☐ CONSTRUCTION DATE _____

JOB DATA:

CHILLER MODEL NO. YST _____

NO. OF UNITS _____

STEAM TURBINE MODEL_____

OIL PUMP MOTOR _____ VOLTS, 3-PHASE, _____ HZ, _____ FLA

Issue Date:
September 23, 2014

IMPORTANT!

READ BEFORE PROCEEDING!

GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During installation, operation maintenance or service, individuals may be exposed to certain components or conditions including, but not limited to: refrigerants, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of operating/service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized operating/service personnel. It is expected that these individuals possess independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

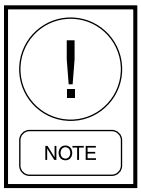
SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to specific situations:

Indicates a possible hazardous situation which will result in death or serious injury if proper care is not taken.

Identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution if proper care is not taken or instructions and are not followed.

Indicates a potentially hazardous situation which will result in possible injuries or damage to equipment if proper care is not taken.



Highlights additional information useful to the technician in completing the work being performed properly.

External wiring, unless specified as an optional connection in the manufacturer's product line, is not to be connected inside the control cabinet. Devices such as relays, switches, transducers and controls and any external wiring must not be installed inside the micro panel. All wiring must be in accordance with Johnson Controls' published specifications and must be performed only by a qualified electrician. Johnson Controls will NOT be responsible for damage/problems resulting from improper connections to the controls or application of improper control signals. Failure to follow this warning will void the manufacturer's warranty and cause serious damage to property or personal injury.

NOTES:

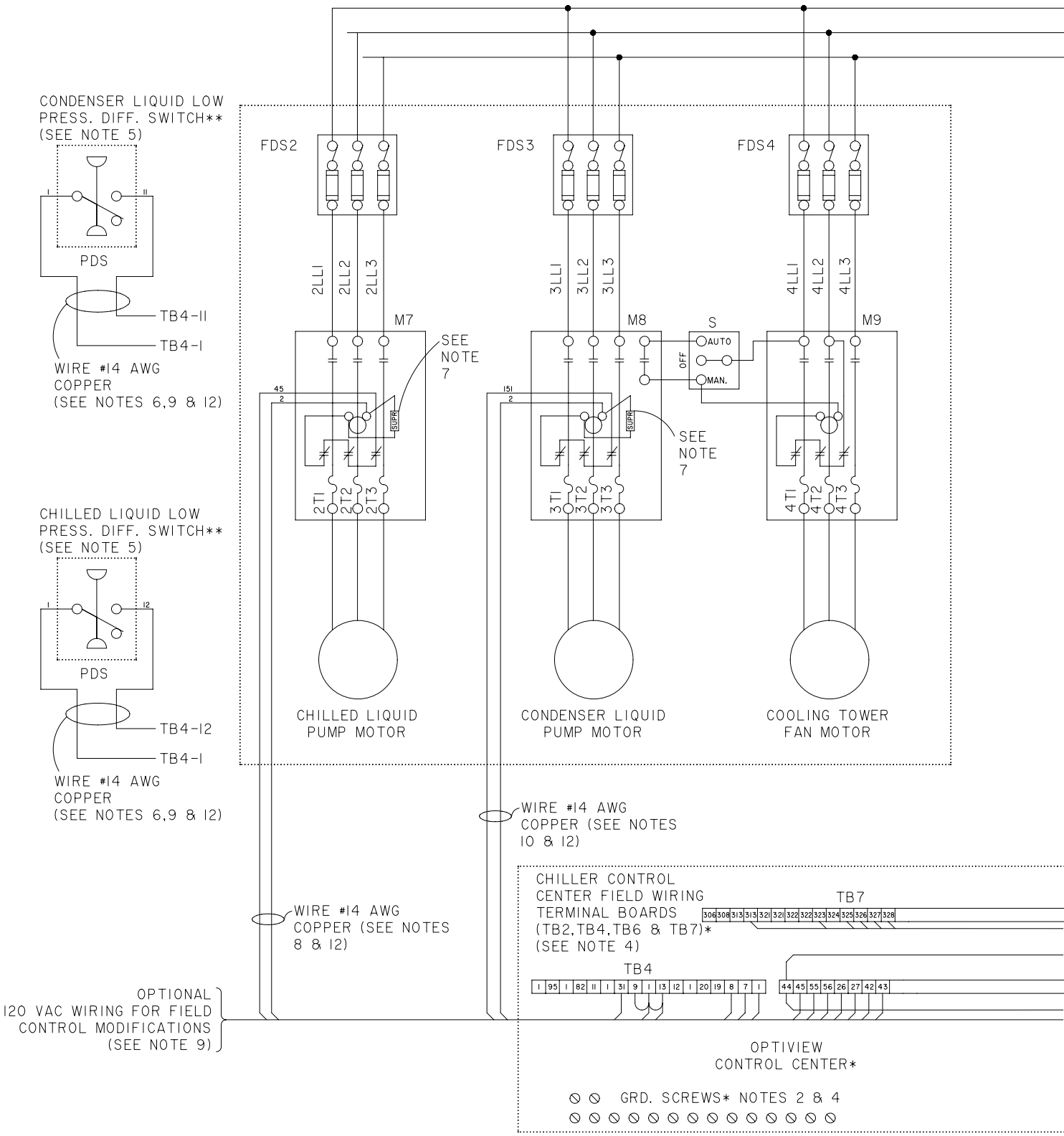
1. All field wiring shall be in accordance with the current edition of the National Electric Code (N.E.C.) as well as all other applicable codes and specifications.
2. Ground the control center with ground screw furnished, using copper conductor only.
3. Wiring, electrical conduit, junction boxes, fused disconnect switches (FDS), or circuit breakers, starters (M), push-button stations (PB), manual-off-automatic switch (S), pressure differential switch (PDS) furnished by others unless otherwise specified.
4. Items marked * furnished by York International Corporation.
5. Items marked ** available from York International Corporation at additional cost.
6. If optional chilled and condenser liquid low pressure differential switches are installed, panel must be configured for "digital" flow sensors. See form 160.67-O1.
7. Each 115 VAC field-connected inductive load, i.e., relay coil, motor starter coil, etc. shall have a transient suppressor wired (by others) in parallel with its coil, physically located at the coil. Spare transient suppressors are factory supplied in a bag attached to the green ground screw in the lower left corner of the Control Center.
8. Automatic control of the chilled liquid pump by the Control Center is shown. Chilled liquid pump motor starter (M7) holding coil to be furnished for 115V-50/60 Hz. The power requirements for the liquid pump starter (M7) must be a max. of 2 amps holding and 10 amps inrush. If power requirements exceed this value, furnish coil for line voltage, and control relay with 115V coil. See Note 7.
9. Wiring diagram for YORK Optiview Control Center form 160.67-PW6. Field Control Modifications per form 160.67-PW2.
10. Automatic control of the condenser liquid pump by the control center is shown. Condenser liquid pump motor starter (M8) holding coil to be furnished for 115V-50/60 Hz. The power requirements for the condenser liquid pump starter (M8) must be a max of 2 amps holding and 10 amps inrush. If the power requirements exceed this value, furnish coil for the line voltage and control relay with 115V coil. See note 7.
11. Chiller with floor mounted steam condenser, requires field connection of wiring between junction boxes mounted on the refrigerant condenser and the floor mounted steam condenser junction box and control devices. All wiring is supplied by YORK for installation in conduit by others. The size and type of conduit must be determined by the electrical installation contractor.
12. Wire #14 AWG copper for one way distance of less than 175 feet. Wire #12 AWG copper for one way distance of more than 175 feet but less than 300 feet.
13. The fused disconnect switch (FDSI) and max. dual element fuse, for the single point power supply to the power panel must be as follows:

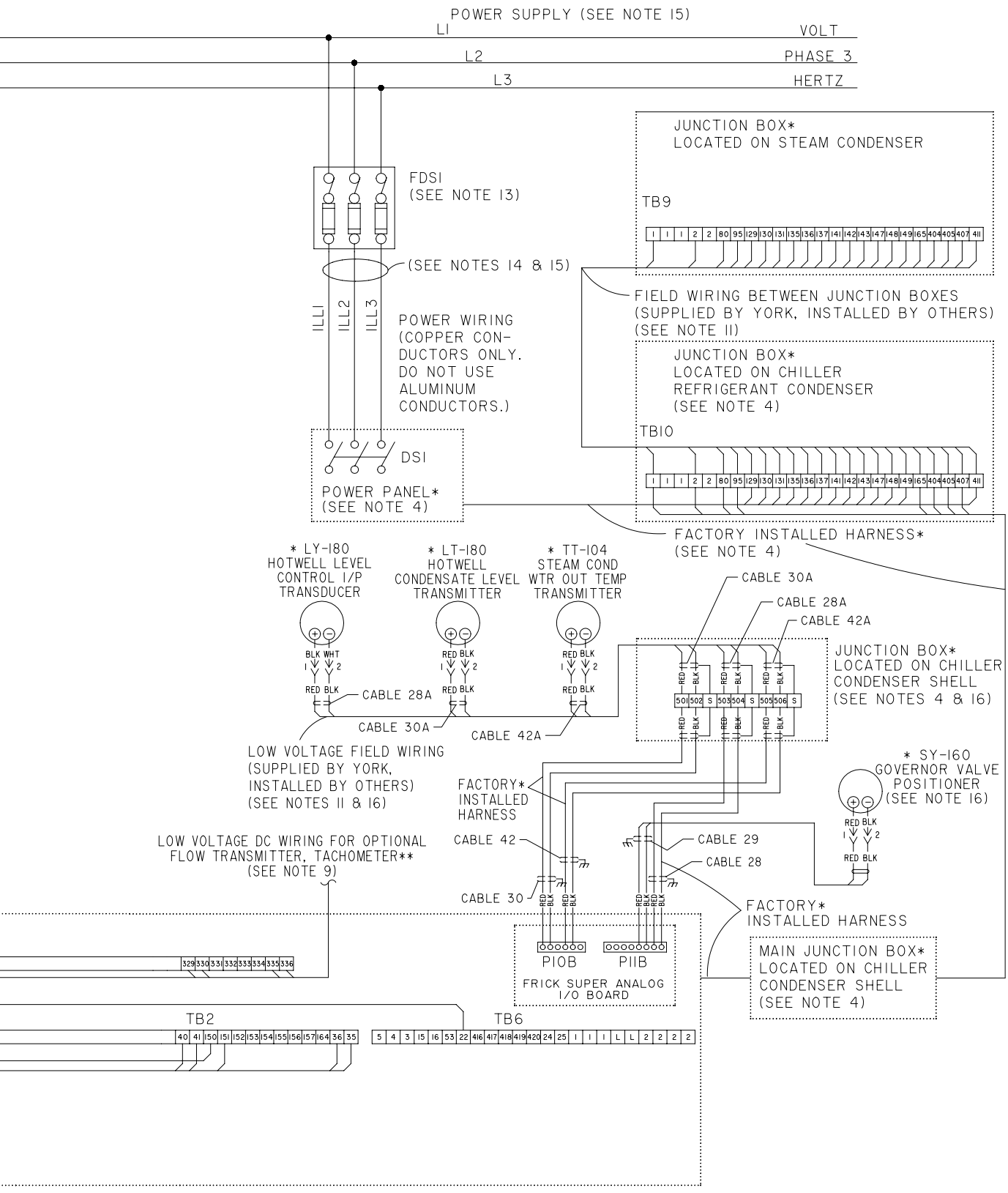
SINGLE POINT POWER SUPPLY		
VOLTS-PH-HZ	FULL LOAD AMPS	MAXIMUM DUAL ELEMENT FUSE
208-3-60	68.8	90
460-3-60	31.5	40

14. The single point power wiring minimum circuit ampacity shall be as follows:

3-PHASE VOLTAGE	MINIMUM CIRCUIT AMPACITY
208	75
460	35

15. Three phase power supply must be properly phased L1, L2, & L3 corresponding to phase sequence A, B, & C.
16. Cable 29 for governor value positioner is supplied with a factory installed din connector. Cables 28a and 30a must be terminated with the DIN connectors supplied in the junction box.


CONDENSER LIQUID LOW PRESS. DIFF. SWITCH** (SEE NOTE 5)
PDS
TB4-11
TB4-1
WIRE #14 AWG COPPER (SEE NOTES 6,9 & 12)
CHILLED LIQUID LOW PRESS. DIFF. SWITCH** (SEE NOTE 5)
PDS
TB4-12
TB4-1
WIRE #14 AWG COPPER (SEE NOTES 6,9 & 12)
FDS2
FDS3
FDS4
2LL1
2LL2
2LL3
3LL1
3LL2
3LL3
4LL1
4LL2
4LL3
M7
M8
M9
S
AUTO
OFF
MAN.
SEE NOTE 7
SEE NOTE 7
SUPR
2T1
2T2
2T3
3T1
3T2
3T3
4T1
4T2
4T3
CHILLED LIQUID PUMP MOTOR
CONDENSER LIQUID PUMP MOTOR
COOLING TOWER FAN MOTOR
WIRE #14 AWG COPPER (SEE NOTES 10 & 12)
WIRE #14 AWG COPPER (SEE NOTES 8 & 12)
CHILLER CONTROL CENTER FIELD WIRING TERMINAL BOARDS (TB2,TB4,TB6 & TB7)* (SEE NOTE 4)
TB7
TB4
OPTIONAL 120 VAC WIRING FOR FIELD CONTROL MODIFICATIONS (SEE NOTE 9)
OPTIVIEW CONTROL CENTER*
GRD. SCREWS* NOTES 2 & 4
LD18819


POWER SUPPLY (SEE NOTE 15)
L1
L2
L3
VOLT
PHASE 3
HERTZ
JUNCTION BOX*
LOCATED ON STEAM CONDENSER
TB9
FDS1
(SEE NOTE 13)
(SEE NOTES 14 & 15)
FIELD WIRING BETWEEN JUNCTION BOXES
(SUPPLIED BY YORK, INSTALLED BY OTHERS)
(SEE NOTE 11)
1L1
1L2
1L3
POWER WIRING
(COPPER CONDUCTORS ONLY. DO NOT USE ALUMINUM CONDUCTORS.)
JUNCTION BOX*
LOCATED ON CHILLER
REFRIGERANT CONDENSER
(SEE NOTE 4)
TB10
DS1
POWER PANEL*
(SEE NOTE 4)
FACTORY INSTALLED HARNESS*
(SEE NOTE 4)
* LY-180
HOTWELL LEVEL
CONTROL I/P
TRANSDUCER
* LT-180
HOTWELL
CONDENSATE LEVEL
TRANSMITTER
* TT-104
STEAM COND
WTR OUT TEMP
TRANSMITTER
CABLE 30A
CABLE 28A
CABLE 42A
JUNCTION BOX*
LOCATED ON CHILLER
CONDENSER SHELL
(SEE NOTES 4 & 16)
BLK WHT
RED BLK
CABLE 28A
CABLE 30A
CABLE 42A
LOW VOLTAGE FIELD WIRING
(SUPPLIED BY YORK,
INSTALLED BY OTHERS)
(SEE NOTES 11 & 16)
FACTORY*
INSTALLED
HARNESS
* SY-160
GOVERNOR VALVE
POSITIONER
(SEE NOTE 16)
LOW VOLTAGE DC WIRING FOR OPTIONAL
FLOW TRANSMITTER, TACHOMETER**
(SEE NOTE 9)
CABLE 42
CABLE 30
CABLE 29
CABLE 28
FACTORY*
INSTALLED HARNESS
P10B
P11B
FRICK SUPER ANALOG
I/O BOARD
MAIN JUNCTION BOX*
LOCATED ON CHILLER
CONDENSER SHELL
(SEE NOTE 4)
TB2
TB6

LD18820

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