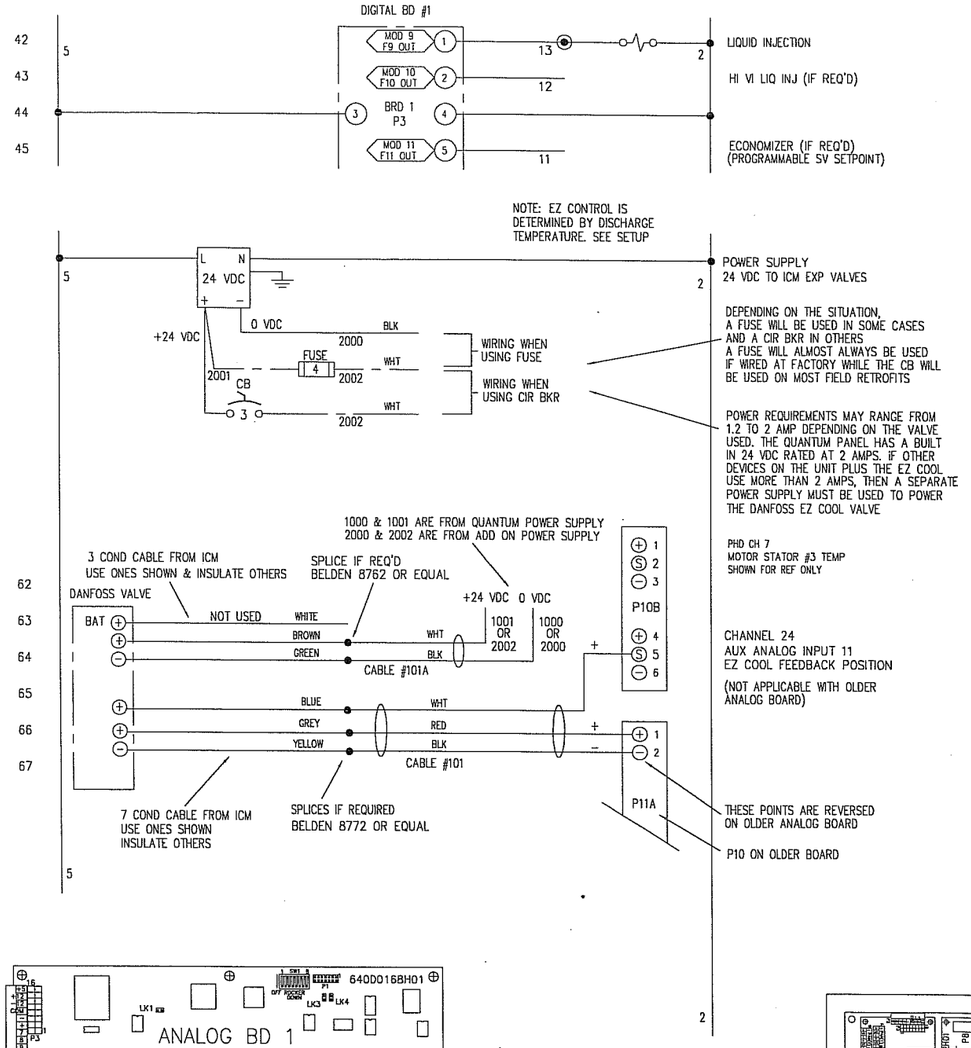

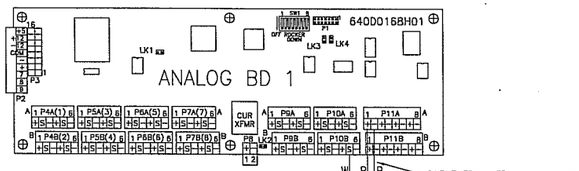

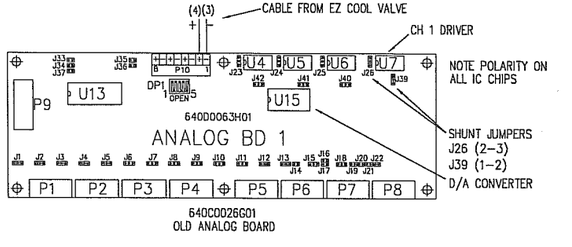

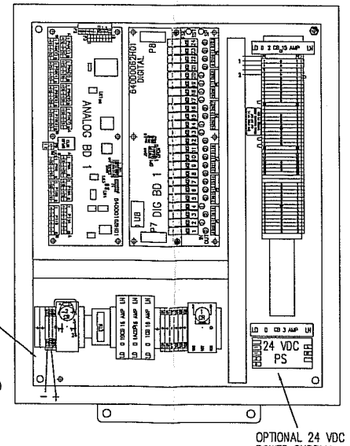

REVISION HISTORY

ZONE	REV	ECN	DESCRIPTION	DATE	DR	CHK	APPD
.	A	.	ADD QUANTUM LX SETUP	03-01-05	HGN	BSH	HGN
.	B	.	UPDATE SETUP PROCEDURES	07-14-05	HGN	JCC	HGN
.	C	.	ADD FIELD RETROFIT INSTRUCTIONS	08-09-05	HGN	JCC	HGN
.	D	.	ADD INPUT TO CH 24, VER. 6.13 REQ'D	06-09-06	HGN	JML	JML

INITIAL SETUP PROCEDURE QUANTUM Q4A

- ENSURE LIQUID INJECTION IS ENABLED IN FACTORY SETUP
- PRESS "MENU", "CALIBRATION", "OK", "MORE" & ' ANALOG OUT CALIBRATION
- PRESS "CALIBRATION SETPOINTS" AND ENTER "2" FOR THE INPUT CHANNEL TO OUTPUT SETPOINT FOR ANALOG OUTPUT #1
- THIS MEANS THAT OUTPUT #1 WILL MONITOR DISCHARGE TEPMERATURE
- POWER DOWN THE PANEL AND REMOVE THE CONTROL WIRES TO THE VALVE FROM TERMINALS 1 & 2 OF THE P11A TERMINAL STRIP
- INSTALL THE LEADS OF A CALIBRATED, QUALITY METER SET TO READ mADC, POSITIVE TO TERMINAL #1 AND NEGATIVE TO TERMINAL #2.
- POWER UP PANEL AND PUSH "MENU", "CALIBRATION", "MORE", "ANALOG OUTPUT CALIBRATION" AND "ANALOG 1 OUT CALIBRATION"
- PRESS "SET OUTPUT TO TOP END"
- READ METER READING, IF 20.00mA, OK. IF NOT PRESS "CALIBRATE TOP END"
- ADJUST READING BY USING THE "INCREASE", "DECREASE" AND "RATE OF CHANGE" KEYS TO GET A 20.00mA READING
- ONCE 20.00mA IS ACHIEVED PRESS "PREVIOUS SCREEN" BUTTON
- PRESS "SET OUTPUT TO BOTTOM END"
- READ METER READING, IF 4.00mA, OK, IF NOT PRESS "CALIBRATE BOTTOM END"
- ADJUST READING BY USING THE "INCREASE", "DECREASE" AND "RATE OF CHANGE" KEYS TO GET A 4.00mA READING
- ONCE 4mA IS ACHIEVED, PRESS "PREVIOUS SCREEN" BUTTON
- PRESS "STANDARD OUTPUT CONTROL"
- REMOVE METER AND REINSTALL VALVE WIRING AS SHOWN
- PRESS "CONTROL SETUP", "MORE", & "PID SETUP"
- PRESS "PID SETUP" ON OUTPUT CHANNEL 1 PID
- PRESS "CONTROL" UNTIL "WHEN RUNNING" IS DISPLAYED
- PRESS "ACTION" UNTIL "FORWARD" IS DISPLAYED
- PRESS "OFF VALUE" UNTIL "0%" IS DISPLAYED
- PRESS "CHANGE SETPOINTS"
- SET SETPOINT TO "150' F. (65.5' C.)", PRESS "ENTER"
- SET DEADBAND TO "0", "PRESS "ENTER"
- SET PROPORTIONAL GAIN TO "25", PRESS "ENTER"
- SET INTEGRAL GAIN TO "5", PRESS "ENTER"
- SET DERIVATIVE GAIN TO "0", PRESS "ENTER"
- SET HIGH LIMIT TO "100%"
- SET LOW LIMIT TO "0%"
- SET OFF VALUE TO "0%", PRESS "ENTER"
- PRESS "OK"
- PRESS "HOME" TO GO BACK TO MAIN SCREEN

INITIAL SETUP PROCEDURE QUANTUM LX

- ENSURE LIQUID INJECTION IS ENABLED IN "PACKAGE SETPOINTS"
- THE FIRST PROCEDURE THAT NEEDS TO BE COMPLETED IS THE CALIBRATION OF THE ANALOG OUTPUT USED FOR EZ COOL LIQC. TYPICALLY THIS WILL BE ANALOG OUTPUT #1 FOR PID #1.
- POWER DOWN THE PANEL AND REMOVE THE TWO CONTROL WIRES FOR THE VALVE FROM TERMINALS 1 & 2 OF THE P11A TERMINAL STRIP OF ANALOG BOARD #1.
- PLACE THE LEADS OF A CALIBRATED, QUALITY METER TO TERMINAL ONE (POSITIVE) AND TERMINAL TWO (NEGATIVE). SET THE METER TO READ mA DC AND POWER UP THE PANEL.
- SET OPERATING SESSION TO SESSION [2] AND GO TO THE ANALOG OUTPUT CALIBRATION SCREEN BY PRESSING [MENU] > [CALIBRATION] > [ANALOG OUTPUTS] > [OUTPUT CALIBRATION]
- ENSURE THE ANALOG BOARD AND CHANNEL TO BE CALIBRATED IS BOARD #1 & CHANNEL #1.
- PRESS #1 ON THE KEYPAD TO DRIVE THE OUTPUT TO THE LOW END. USING NUMBERS 4, 7, AND 0 ON THE KEYPAD TO INCREASE AND DECREASE THE OUTPUT AND CHANGE THE "DELTA FOR CHANGING OUTPUT PERCENTAGE" SETPOINT, SET THE OUTPUT TO 4 mA.
- IF THE READ VALUE IS LESS THAN THE OBJECTIVE OF 4 OR 20 mA USE 7 ON THE KEYPAD TO INCREASE THE OUTPUT DELTA. IF THE READ VALUE IS MORE THAN THE OBJECTIVE USE 4 TO DECREASE THE VALUE BY THE DELTA.
- USE THE 0 KEY TO CHANGE THE DELTA FROM 10 TO 1, .10 OR .01% TO TUNE THE OUTPUT TO THE OBJECTIVE OF 4 OR 20mA.
- PRESS #3 ON THE KEYPAD TO SET THE OUTPUT TO THE HIGH END AND REPEAT THE PROCESS IN THE PRECEDING STEPS TO SET THE OUTPUT TO 20mA.
- POWER DOWN THE PANEL, REMOVE THE METER AND RECONNECT THE CONTROL WIRES FOR THE EZ COOL LIQC VALVE AS THEY WERE REMOVED TO TERMINALS 1 & 2 OF THE P11A TERMINAL STRIP OF ANALOG BOARD #1. AND POWER UP PANEL.

MUST BE IN SESSION 2 TO SETUP THE EZ COOL LIQC OUTPUT.
PUSH MENU KEY, USE THE ARROW KEY TO SCROLL DOWN TO [SETPOINTS] AND PUSH THE ENTER KEY.
USE THE ARROW KEY TO SCROLL DOWN TO [PID SETUP] AND PUSH THE ENTER KEY.
THE BOX SHOULD BE ON [PAGE 1], PUSH THE ENTER KEY.
USING THE TAB KEY, ENTER KEY AND ARROW KEYS SET THE FOLLOWING;
CONTROL [RUNNING]
ACTION [FORWARD]
CONTROL POINT [DISCHARGE TEMPERATURE]
DEVICE SOURCE [ANALOG BOARD 1(ASCII)]
DEVICE CHANNEL [1]
SET-POINT [150]
DEAD-BAND [0]
PROPORTIONAL BAND [25]
INTEGRAL GAIN [5]
DERIVATIVE GAIN [0]
HIGH LIMIT [100%]
LOW LIMIT [0%]
WHEN RUNNING OFF VALUE [0%]

FINAL TUNING WILL HAVE TO BE DONE AFTER UNIT IS STARTED
REFER TO WIRING DIAGRAM SUPPLIED WITH UNIT

649B0925G11-FACTORY ASSEM WITH POW SUPPLY & FUSE
649B0925G21-FIELD ASSEM WITHOUT POW SUPPLY
649B0925G31-FIELD ASSEM WITH POW SUPPLY & CIR BKR
649B0925G41-FIELD ASSEM WITH POW SUPPLY & FUSE

PURCHASER

FRICK ORD NO PURCH ORD NO

NOTICE TO PURCHASER
REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY FRICK COMPANY. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE

UNLESS OTHERWISE SPECIFIED TOLERANCES PER QAP 18

DEC 2PL ±	DEC 3PL ±	FRACT ±	ANGLE ±

DR	HG NOWELL	10-12-04
CHK	DE LEHMAN	10-12-04
APPD	DE LEHMAN	10-12-04
CODE		

YORK Refrigeration
YORK INTERNATIONAL

York International Refrigeration - Frick
Waynesboro, PA 17268

TITLE
WIRING DIAGRAM & CONTROL ASSEM
DANFOSS LIQ INJ EZ COOL VALVE
QUANTUM

SIZE	CAGE CODE	DWG NO	REV
B	23587	649B0925	D

SCALE | SHEET 1 OF 1