

REVISION HISTORY							
ZONE	REV	ECN	DESCRIPTION	DATE	DR	CHK	APPD
A	1		REVERSE ANALOG OUTPUTS	01-25-05	HON	DEL	HON
B	1		ADD SPACE HTR RELAY	05-27-05	HON	DEL	HON
C	1		ADD COND. AIR OUT CONTROL CH'S 5 & 6	01-16-06	HON	DEL	HON

NOTE A:  
A SURGE SUPPRESSOR OR MOV TO BE INSTALLED ACROSS ALL INDUCTIVE LOADS IN QUANTUM AND IF SHOWN ON DEVICES OUTSIDE OF QUANTUM.  
SURGE SUPPRESSOR:  
RC NETWORK CONSISTING OF A .1 MFD CAPACITOR, 600 VDC IN SERIES WITH A 47 OHM RESISTOR.  
USE ELECTROBE #R2031-3-6 OR EQUAL.  
VARISTOR  
METAL OXIDE VARISTOR (MOV) SPECIFICATIONS:  
OE #1501A104 OR EQUAL FOR 115 VOLTS  
OE #2501A104 OR EQUAL FOR 230 VOLTS

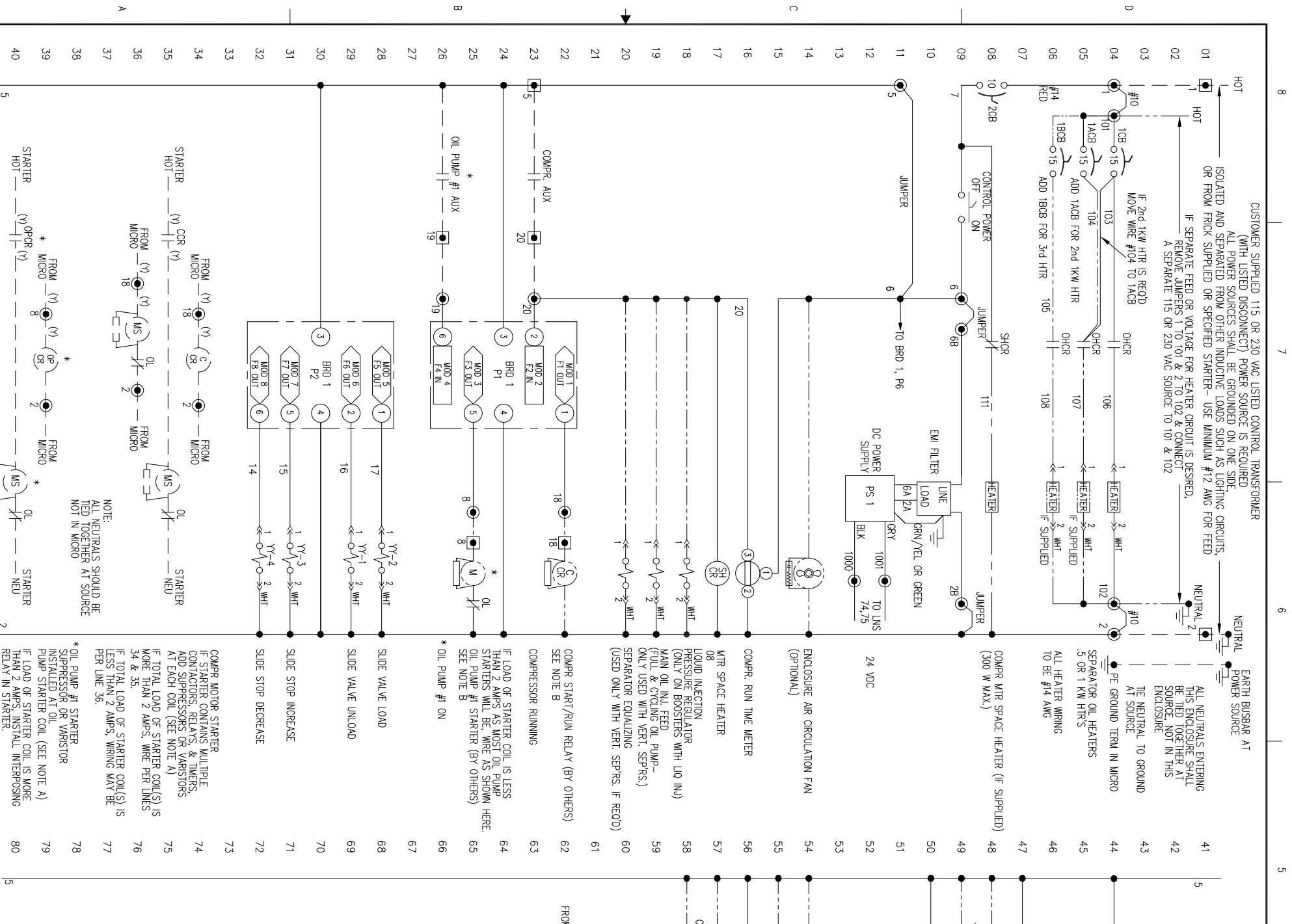
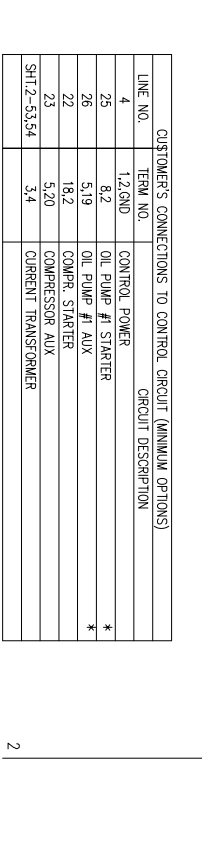
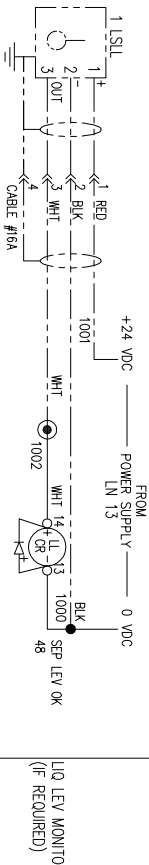
NOTE B:  
STARTER CONNECTIONS ARE SHOWN IN WIRING DIAGRAM AS A FRICK SUPPLIED STARTER. SEE LINES 34-40 FOR CUSTOM STARTERS NOT SUPPLIED BY FRICK. WIRING BY FRICK IF MOUNTED STARTER.  
NOTE C:  
SOLENOID WIRING IF DIN CONNECTORS ARE USED  
IF ANY OTHER DEVICES USE DIN CONNECTORS, SUCH AS OIL HEATERS, THE HOT WILL ALWAYS BE PIN 1 AND THE NEUTRAL PIN 2

INDICATES DEVICES SUPPLIED BY FRICK OR OTHERS WHEN OPTIONAL OR REQUIRED  
WIRING BY OTHERS-- ALL WIRING ENTERING CONTROL CENTER (INCLUDING GROUND & NEUTRAL) TO BE #14 AWG STRANDED WIRES UNLESS SPECIFIED OTHERWISE.  
REPRESENTS STARTER TERMINALS WHEN SUPPLIED BY FRICK.  
TERMINALS IN DIG I/O CONTROL CENTER  
INDICATES DIN CONNECTOR IF USED ON DEVICE  
INDICATES \*REQUIRED WITH OIL PUMP ONLY\*

NO THREE PHASE WIRING SHALL ENTER OR LEAVE QUANTUM PANEL OR BE RUN IN SAME CONDUIT AS ANY QUANTUM CONTROL WIRING ENTERING OR LEAVING QUANTUM PANEL.  
NO SINGLE PHASE OVER 300 VOLTS SHALL ENTER OR LEAVE QUANTUM PANEL.  
ALL QUANTUM WIRING TO BE #16 AWG STRANDED WIRE UNLESS SPECIFIED OTHERWISE.  
ALL NEUTRAL (EXP. 2 & 2A) WIRING TO BE WHITE UNLESS NOTED OTHERWISE.  
FOR INSTALLATION OF QUANTUM PACKAGE TEST PROCEDURE, SEE MMB NO. 4.11.10.12  
FOR INSTALLATION OF COMPUTER BOARDS AND ERRORS, SEE MMB NO. 4.11.10.11  
FOR HIGH POT TEST PROCEDURE, SEE MMB NO. 4.11.10.7

FRICK ORD NO.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DO NOT SCALE
PURCH ORD NO.	YORK Refrigeration York International Refrigeration - Frick Waynesboro, PA 17268	
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.	
TITLE	WIRING DIAGRAM RWBI QUANTUM LX	
DATE CODE	DATE CODE	DATE CODE
23587	649D5155	
SCALE	SHEET 1	OF 2

LINE NO.	ITEM NO.	CONTROL POWER	CIRCUIT DESCRIPTION
4	1,2,3,4	CONTROL POWER	
23	8,2	OIL PUMP #1 STARTER	*
26	5,19	OIL PUMP #1 AUX	*
22	18,2	COMP. STARTER	*
23	5,20	COMPRESSOR AUX	
SHT-2-53,54	3,4	CURRENT TRANSFORMER	



CUSTOMER SUPPLIED 115 OR 230 VAC LISTED CONTROL TRANSFORMER  
(WITH LISTED DISCONNECT) POWER SOURCE IS REQUIRED  
ALL POWER SOURCES SHALL BE GROUNDED ON ONE SIDE.  
ISOLATED AND SEPARATED FROM OTHER INDUCTIVE LOADS SUCH AS LIGHTING CIRCUITS,  
OR FROM FRICK SUPPLIED OR SPECIFIED STARTER-- USE MINIMUM #12 AWG FOR FEED.  
IF SEPARATE FEED OR VOLTAGE FOR HEATER CIRCUIT IS DESIRED,  
REMOVE JUMPER #104 TO 101 & CONNECT  
A SEPARATE 115 OR 230 VAC SOURCE TO 101 & 102  
IF 2nd 1KW HTR IS RECD  
MOVE WIRE #104 TO 1A0B  
IF 101 & 102 ARE TO BE USED FOR 2nd 1KW HTR  
ADD 1A0B FOR 2nd 1KW HTR  
OHCR  
IF 101 & 102 ARE TO BE USED FOR 3rd 1KW HTR  
ADD 1B0B FOR 3rd 1KW HTR  
OHCR  
HEATER 1  
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HEATER 3  
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HEATER 80

NOTE:  
ALL NEUTRALS SHOULD BE  
TIED TOGETHER AT SOURCE  
NOT IN MICRO

COMP. MOTOR STARTER  
IF STARTER CONTAINS MULTIPLE  
CONTACTORS, RELAYS, & TIMERS,  
ADD SUPPRESSORS OR VARISTORS  
AT EACH COIL (SEE NOTE A)  
IF TOTAL LOAD OF STARTER COIL(S) IS  
MORE THAN 2 AMPS, WIRE PER LINES  
34 & 35.  
IF TOTAL LOAD OF STARTER COIL(S) IS  
LESS THAN 2 AMPS, WIRING MAY BE  
PER LINE 36.

\* OIL PUMP #1 STARTER  
SUPPRESSOR OR VARISTOR  
INSTALLED AT OIL  
PUMP STARTER COIL (SEE NOTE A)  
IF LOAD OF STARTER COIL IS MORE  
THAN 2 AMPS, INSTALL INTERPOSING  
RELAY IN STARTER.

COMP. START/ RUN RELAY (BY OTHERS)  
SEE NOTE B

COMPRESSOR RUNNING  
IF LOAD OF STARTER COIL IS LESS  
THAN 2 AMPS AS MOST OIL PUMP  
STARTERS WILL BE WIRE AS SHOWN HERE.  
SEE NOTE B

COMP. PUMP #1 ON

COMP. MOTOR STARTER  
IF STARTER CONTAINS MULTIPLE  
CONTACTORS, RELAYS, & TIMERS,  
ADD SUPPRESSORS OR VARISTORS  
AT EACH COIL (SEE NOTE A)  
IF TOTAL LOAD OF STARTER COIL(S) IS  
MORE THAN 2 AMPS, WIRE PER LINES  
34 & 35.  
IF TOTAL LOAD OF STARTER COIL(S) IS  
LESS THAN 2 AMPS, WIRING MAY BE  
PER LINE 36.

ZONE	REV	ECN	DESCRIPTION	DATE	DR	CHK	APPD

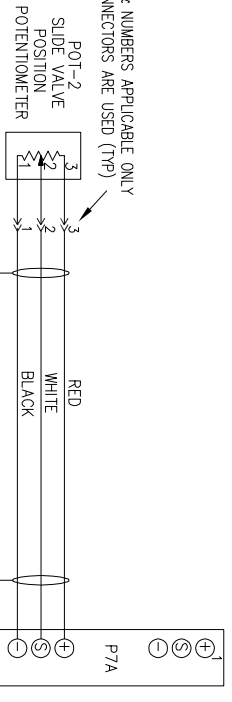
REVISION HISTORY

NOTE 1A:  
ALL ANALOG LOW VOLTAGE WIRING TO BE RUN IN SEPARATE CONDUIT FROM ALL OTHER WIRING. ALL DRAIN WIRES TO BE INSULATED EITHER TOGETHER OR SEPARATELY WITHIN 2" OR CLOSER OF TERMINATION IF NOT CONFERNED OTHERWISE.

NOTE 2A:  
TEMPERATURE WIRING SPECIFICATIONS:  
MINIMUM CABLE SIZE FOR SENSOR WIRING TO BE 22 AWG TWISTED PAIR - BELDEN #8762 OR EQUAL 20/2 TWISTED PAIR SUGGESTED IF CABLE HAS A DRAIN WIRE. GROUND DRAIN WIRE AT ONE END ONLY AND INSULATE OTHER END. 2000 FT. MAX. DISTANCE

NOTE 3A:  
SPECIFICATIONS FOR TEMPERATURE CAPACITY CONTROL:  
-SETPOINT RANGE: -50°F. TO 100°F.  
-TEMPERATURE ASSEMBLY FOR NON-HAZARDOUS LOCATION (FRICK P/N 639A0151G03 WITH 1/2" NPT OR 639A0151G02 FOR CABLE STRAIN RELIEF -WIRE AS SHOWN IN SEPARATE CONDUIT FROM ALL OTHER WIRING. USE BELDEN #8761 CABLE OR EQUAL

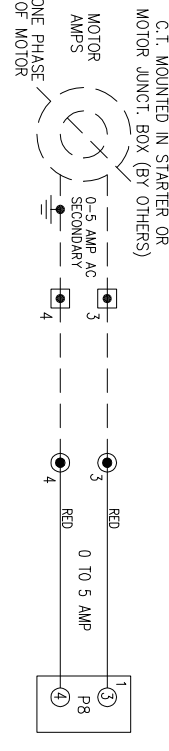
CHANNEL 13  
REMOTE SLIDE VALVE POSITION.  
0-20 MA



CHANNEL 15  
SLIDE STOP  
POT



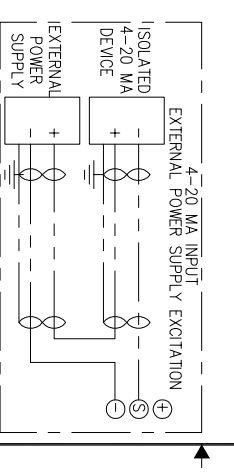
CHANNEL 16  
MOTOR AMPS  
LK2 (OUT)  
ALTERNATE METHOD USING  
0-20 MA  
OR



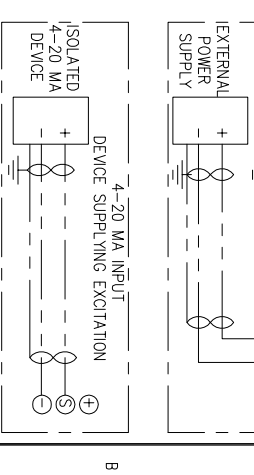
CHANNEL 16  
MOTOR AMPS  
CUR TRAIL  
SEE QUANTUM IOM MANUAL  
FOR C.T. WIRE SIZING TO MOTOR  
LK2 (IN)



CHANNEL 1 (EZ COOL PID LOOP IF REQ'D)  
PID LOOP OR  
PROGRAMMABLE SELECTABLE OUTPUT  
TO RE-TRANSMIT ANALOG INPUT  
4-20 MA



CHANNEL 2  
PID LOOP OR  
PROGRAMMABLE SELECTABLE OUTPUT  
TO RE-TRANSMIT ANALOG INPUT  
4-20 MA



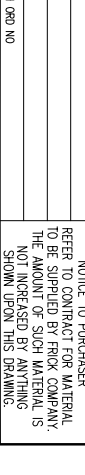
CHANNEL 3  
PROGRAM SELECTABLE OUTPUT  
TO RE-TRANSMIT ANALOG INPUT  
SLIDE VALVE POSITION/CAPACITY  
4-20 MA



CHANNEL 5  
CONDENSER ANALOG CONTROL  
LOCATE PRESS. TRANSDUCER  
ON CHANNEL 11,  
ANA BD. 1



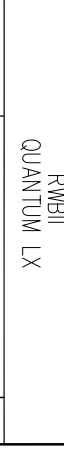
CHANNEL 6  
CONDENSER ANALOG CONTROL  
LOCATE PRESS. TRANSDUCER  
ON CHANNEL 11,  
ANA BD. 1



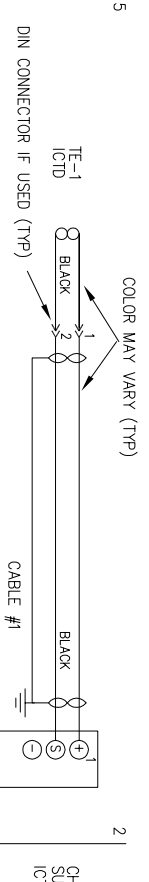
CHANNEL 7  
PID, RE-MIT  
ANALOG INPUT  
CHANNEL



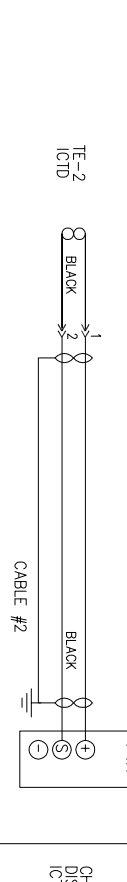
CHANNEL 8  
PID, RE-MIT  
ANALOG INPUT  
CHANNEL



ANALOG BOARD #1



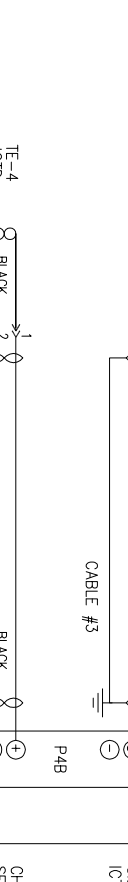
CHANNEL 1  
SLICED TEMP  
IC/D



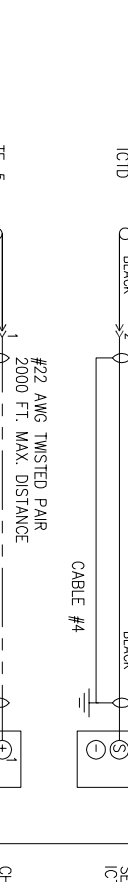
CHANNEL 2  
DISCH TEMP  
IC/D



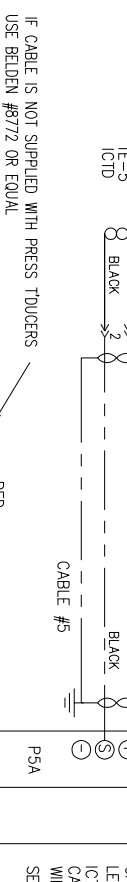
CHANNEL 3  
OIL TEMP  
IC/D



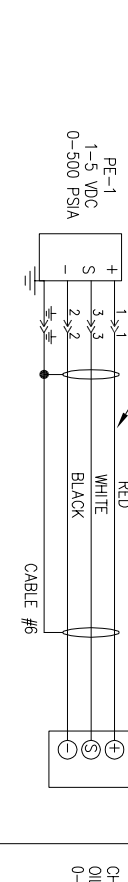
CHANNEL 4  
SEPT TEMP  
IC/D



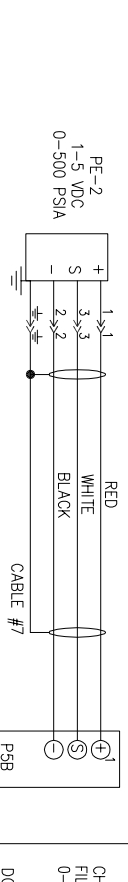
CHANNEL 5  
LEAVING PROCESS TEMPERATURE  
CAPACITY CONTROL (OPTIONAL)  
WIRING BY OTHERS  
SEE NOTE 2A



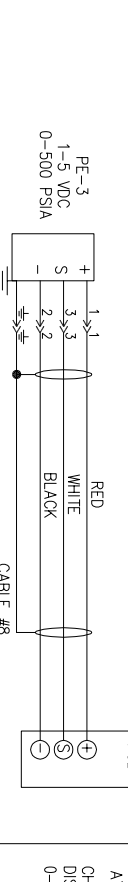
CHANNEL 6  
OIL PRESS  
0-5 VDC



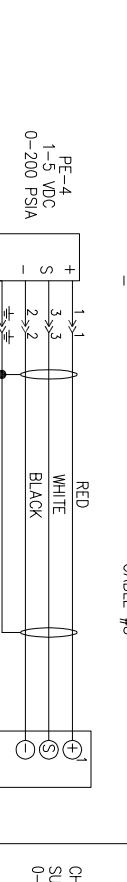
CHANNEL 7  
FILTER PRESS  
0-5 VDC



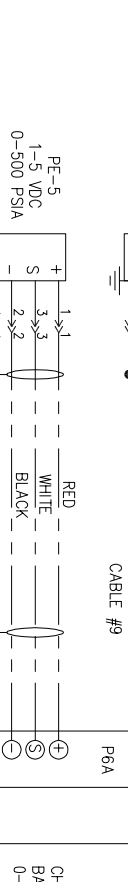
CHANNEL 8  
DISCH PRESS  
0-5 VDC



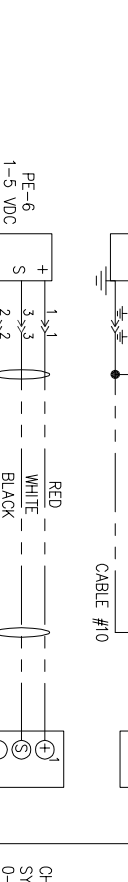
CHANNEL 9  
SLICED PRESS  
0-5 VDC



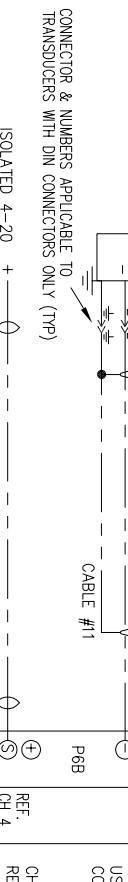
CHANNEL 10  
BALANCE PISTON (IF REQ'D)  
0-5 VDC



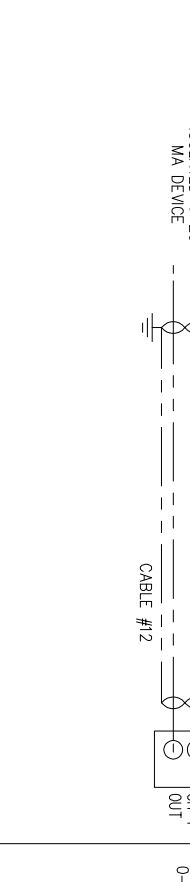
CHANNEL 11  
SYSTEM DISCHARGE PRESS  
0-5 VDC PRESS SHOWN  
USE WITH DIG. OR ANA.  
CONDENSER CONTROL



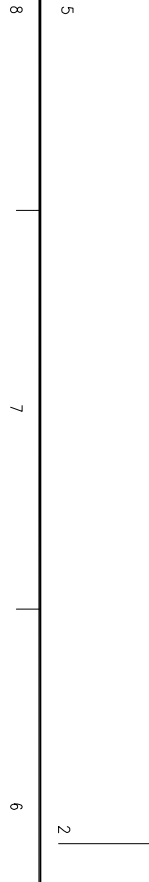
CHANNEL 12  
REMOTE CONTROL SETPOINT  
0-20 MA



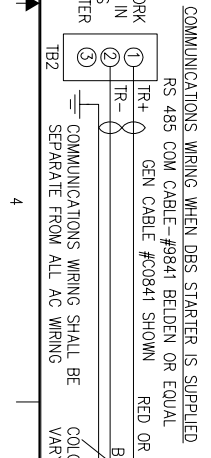
CHANNEL 12  
REMOTE CONTROL SETPOINT  
0-20 MA



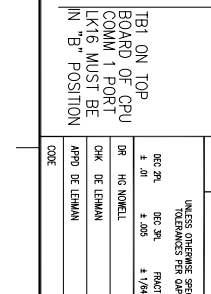
CHANNEL 12  
REMOTE CONTROL SETPOINT  
0-20 MA



CHANNEL 12  
REMOTE CONTROL SETPOINT  
0-20 MA



COMMUNICATIONS WIRING WHEN DBS STARTER IS SUPPLIED  
RS 485 COM CABLE-#9841 BELDEN OR EQUAL  
GEN CABLE-#90841 SHOWN  
RED OR WHT  
BLK  
COLORS MAY VARY



COMMUNICATIONS WIRING SHALL BE  
SEPARATE FROM ALL AC WIRING  
VARY

PURCHASER		UNLESS OTHERWISE SPECIFIED		DIMENSIONS ARE IN INCHES		DRAWING SCALE	
FRICK DND NO.		UNLESS OTHERWISE SPECIFIED	00	NOT SCALE			
FRICK DND NO.		YORK Refrigeration York International Refrigeration - Frick Waynesboro, PA 17268					
FRICK DND NO.		NOTICE TO PURCHASER REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY FRICK COMPANY. THE AMOUNT OF SUCH MATERIAL IS SHOWN UPON THIS DRAWING.					
TITLE	WIRING DIAGRAM	DATE CODE	D 23587	DWG NO	649D5155	REV	C
DR	RWBII	CHK		APPD		SCALE	SHEET 2 OF 2

YORK Refrigeration  
York International Refrigeration -  
Frick  
Waynesboro, PA 17268