9600 Compressor Schematics
(Low Voltage - Three Phase Cryopump Power)

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Compressor Safety

CAUTION

Severe shock hazard. High voltage is present and electrical work should be performed by qualified personnel. All electrical work shall be performed in accordance with the National Electrical Code, ANSI/NFPA 70-1987, as well as all local codes.

Follow all local high voltage safety precautions to reduce the possibility of electrical shock. Make sure all electrical power is OFF before proceeding with this procedure.

Disconnecting means: the switch at the power entry module is set to the OFF position or the power cord shall be disconnected from the power entry module thereby disconnecting the Compressor from electrical power.

CAUTION

The Compressor may start automatically when the remote start feature is used. Lockout and tagout the Compressor to prevent a remote start from occurring before attempting to service the Compressor.

CAUTION

This is a general caution that describes various safety hazards or unsafe practices that could result in equipment damage.

WARNING

This is a general warning that describes various safety hazards or unsafe practices that could result in personal injury or death.

CAUTION

Burn hazard. Allow the Compressor pump to cool before servicing the Compressor.

Schematics

Introduction

The schematics in this manual support the 9600 (Low Voltage - Three Phase Cryopump Power) Compressor CTI-CRYOGENICS P/N 8135900G001.

Table 1-1: Legend: Basic Control Assembly

Identifier	Description
1M	Compressor Motor
J15	Module Power Receptacle
J1/P1	Autoset Power Connector
J2/P2	Unload Solenoid Connector
J3/P3	Oil Solenoid Connector
J4/P4	
J5/P5	
J6/P6	Compressor Contactor Coil
J7/P7	Output Connector
CB1	Main Circuit Breaker (25A)
CB2	Control Cirucits Circuit Breaker (7A)
ETM1	Elapsed Time Meter
M1	Contactor 7.5 HP IEC
M1OL	Relay, Overload (16-24A)
PM1	Phase Monitor OMRON RDR-TFY-M
PWB1	PWB Autoset
T4	Transformer Assembly Control
LT1	Lamp, 24-28V LED Green
J8/P8	ETM1 Connector
J9/P9	LT1 Connector
J10/P10	T3 Input Connector

Table 1-1: Legend: Basic Control Assembly (Continued)

Identifier	Description
J11	Open
J12	Module Signal Connector
J13/P13	Phase Monitor
J14	Open
J15	Cryo Power Output
K2	Over Temperature Lockout Relay

Table 1-2: Legend: On-Board/Cryo Electrical Module P/N 8135127G001

Identifier	Description
JT1/PT3	T2 Cold Head Supply, 3 phase
JT2/PT4	T1 Cold Head Supply, 3 phase
JT3	Open
JT4	Open
JT5/PT5	T2 Cold Head Transformer Output
JT6/PT6	T1 Cold Head Transformer Output
JT7/PT7	T3 Supply
JT8/PT8	T3 Low Voltage Output (23/26 VCT)
J18	Power Output
J19	Signal Output
P12	Signal Connector
P15	Power Connector
K1	Cold Head Voltage Relay
K2	Signal Voltage Relay
K3	Cryo Power Relay

Table 1-3: Legend: On-Board Output Module P/N 8135148G001

Identifier	Description
J30	On-Board Output Receptacle
J31	Remote Control Receptacle
P18	Power Connector
P19	Signal Connector
P31	Remote Jumper

Table 1-4: Legend: Cryo-Torr Interface P/N 8135904P001

Identifier	Description
J27	Coldhead 1 Output Receptacle
J28	Coldhead 2 Output Receptacle
J29	Coldhead 3 Output Receptacle
P30	Input Power Connector
P31	Compressor Controller Connector
P/J32	Cryo Remote Controller
J/P18	PWB Power Input
J/P19	PWB Control Input
J/P20	PWB Remote Input
J/P21	PWB Cryo 1 Input
J/P22	PWB Cryo 2 Input
J/P23	PWB Cryo 3 Input
K1	Cryo 1 Control Relay
K2	Cryo 2 Control Relay
K3	Cryo 3 Control Relay
K4	Compressor Control Relay

Table 1-5: Legend: On-Board Splitter Box P/N 8135203

Identifier	Description
J/P18	On-Board HV Input
J/P19	On-Board Control Input
J/P20	Compressor Remote Connector
J/P21	On-Board 1 HV Connector
J/P22	On-Board 2 HV Connector
J/P23	On-Board 3 HV Connector
J/P24	On-Board 1 HV Control Connector
J/P25	On-Board 2 HV Control Connector
J/P26	On-Board 3 HV Control Connector
J27	On-Board 1 Output
J28	On-Board 2 Output
J29	On-Board 3 Output
P30	On-Board Power Output
P31	Compressor Remote
P32	Customer Remote

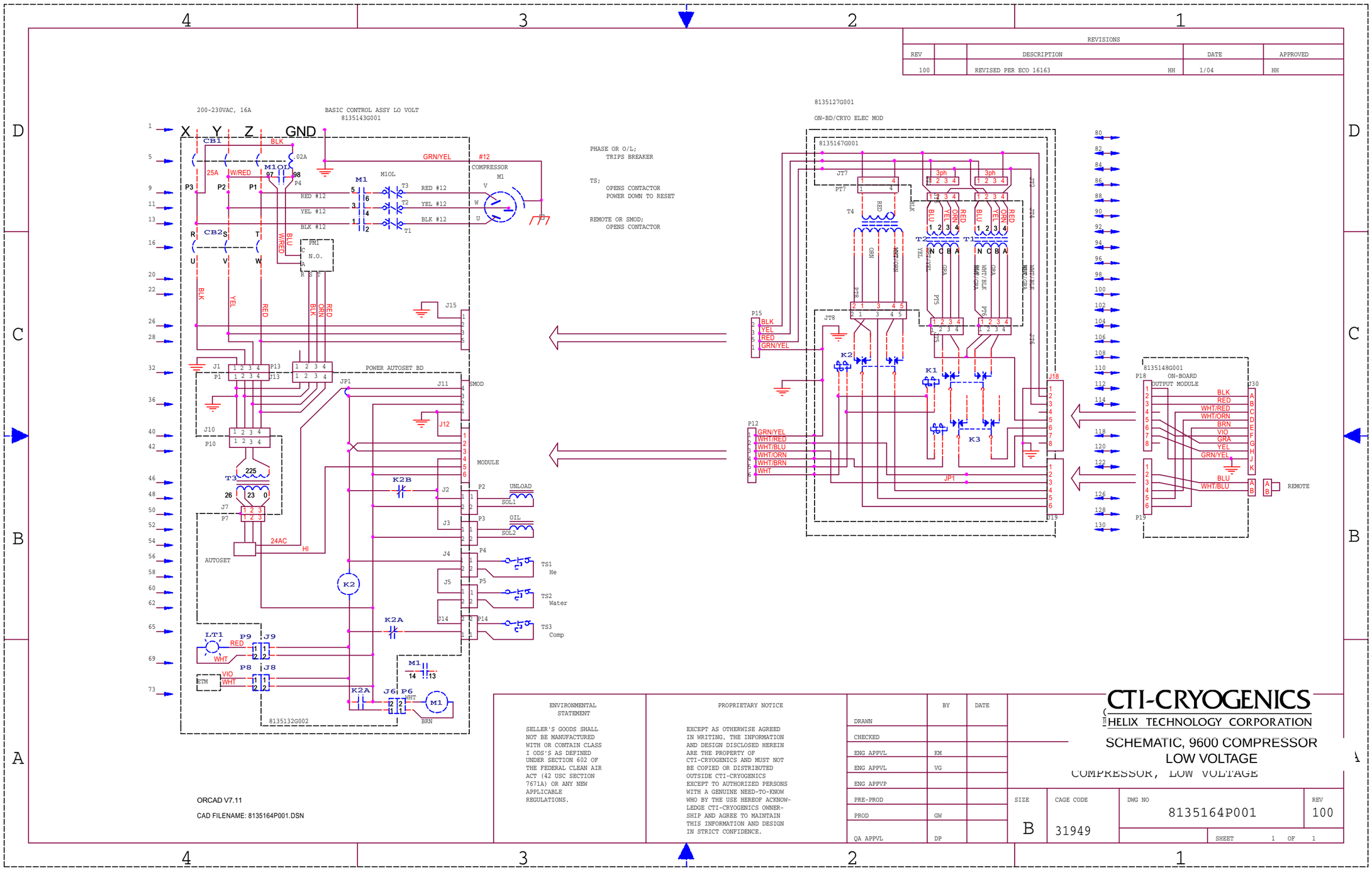

Figure 1-1: 9600 Compressor, Low Voltage Schematic

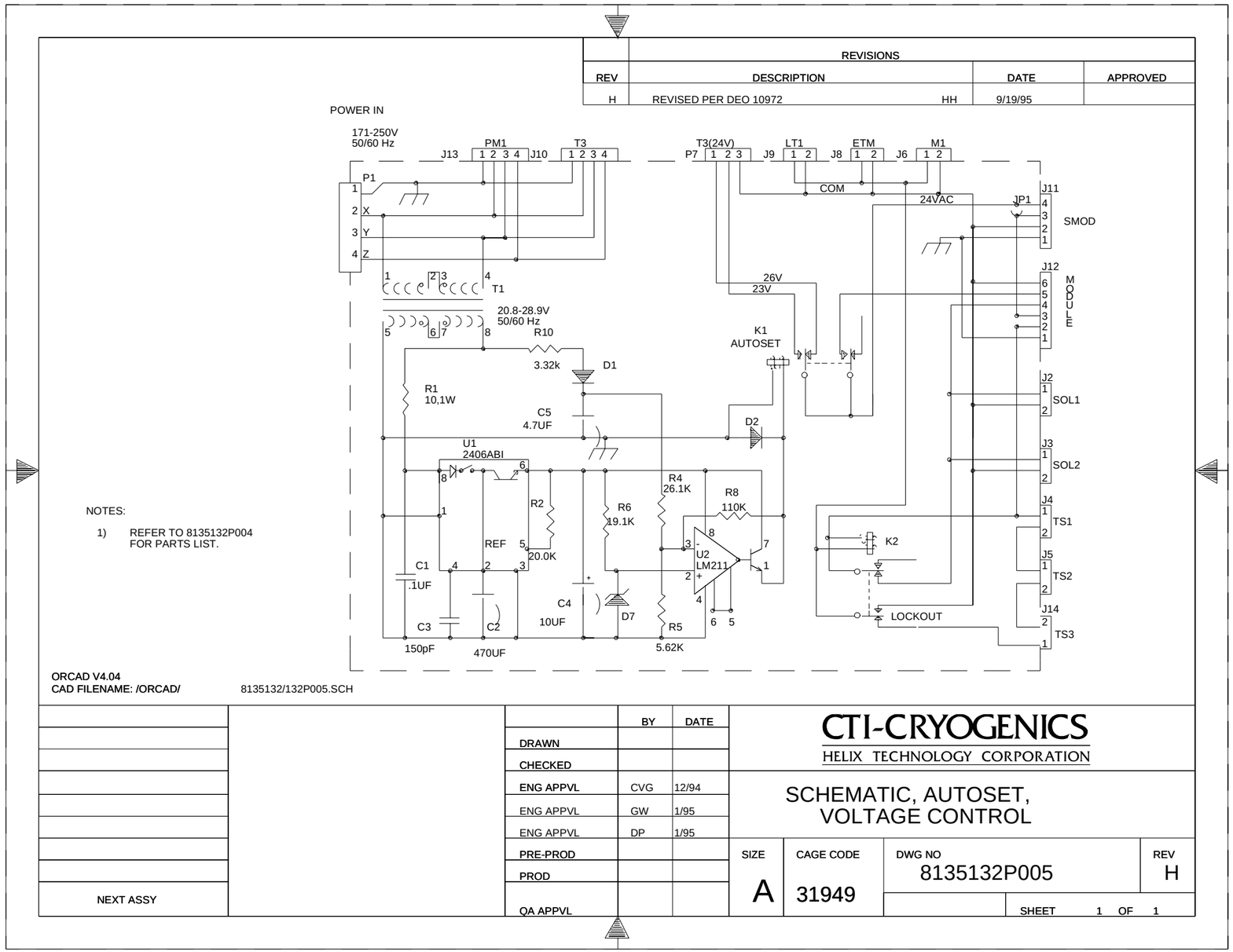

Figure 1-2: Autoset, Voltage Control Schematic

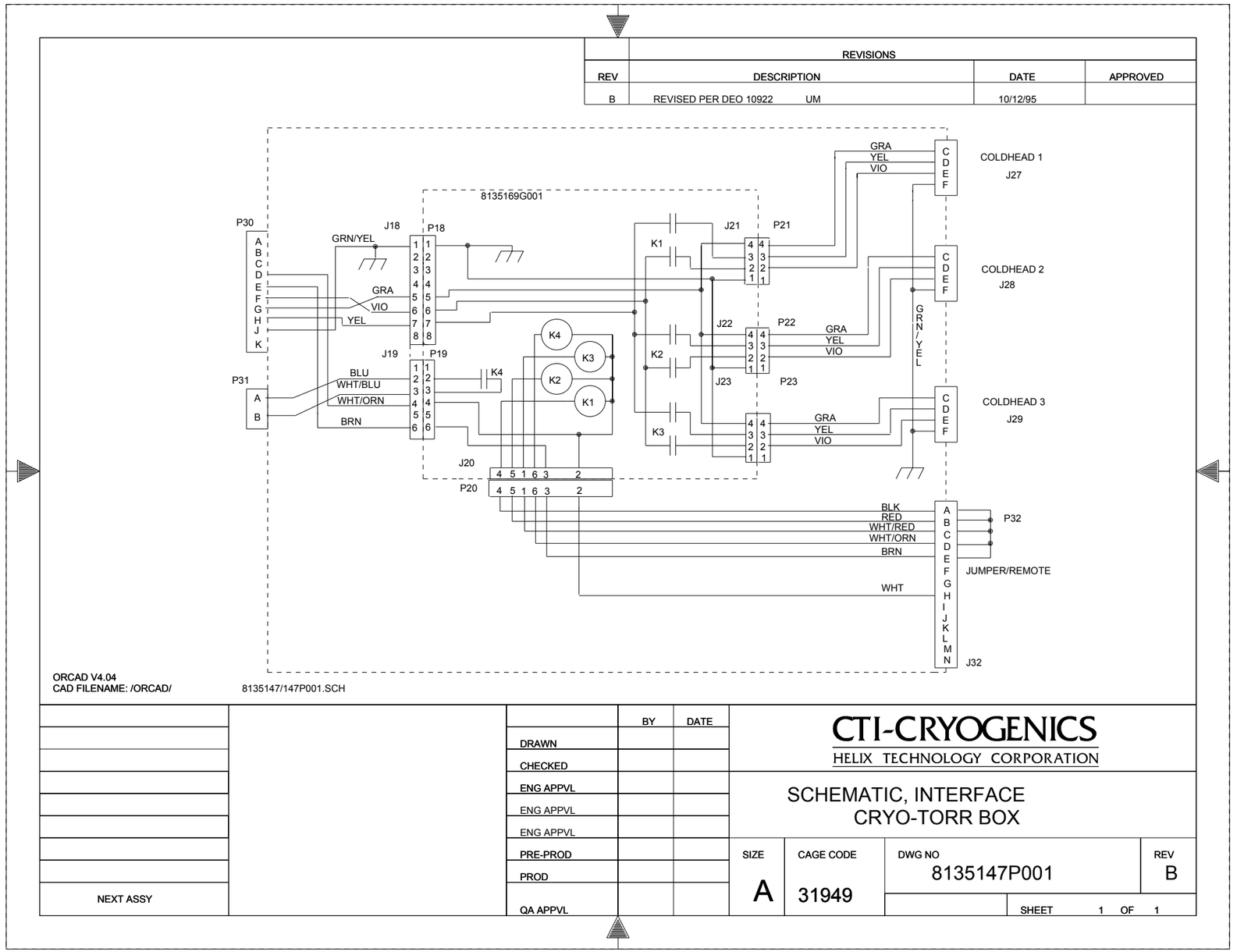

Figure 1-3: Interface Cryo-Torr Box Schematic

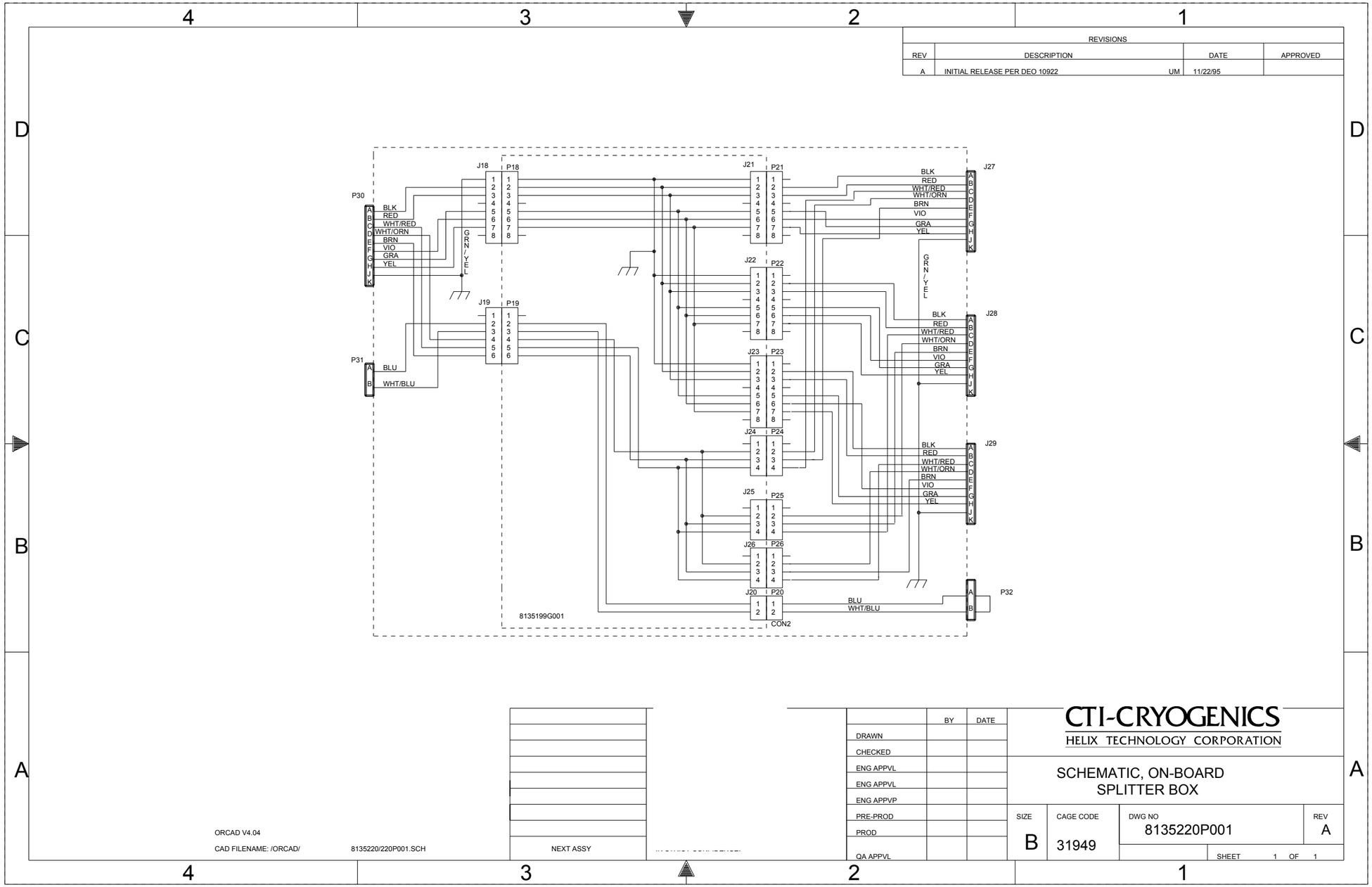

Figure 1-4: On-Board Splitter Box Schematic

Appendix A - Customer Support Information

Customer Support Center Locations

To locate a Customer Support Center near you, please visit our website ***www.helixtechnology.com*** on the world wide web and select *CONTACT* on the home page.

Guaranteed Up-Time Support (GUTS)

For 24 hour, 7 day per week Guaranteed Up-Time Support (GUTS) dial:

800-367-4887 - Inside the United States of America

508-337-5599 - Outside the United States of America

Product Information

Please have the following information available when calling so that we may assist you:

- Product Part Number
- Product Serial Number
- Product Application
- Specific Problem Area
- Hours of Operation
- Equipment Type
- Vacuum System Brand/Model/Date of Manufacture

E-mail

For your convenience, you may also e-mail us at:

techsupport@helixtechnology.com