Single Phase Power Distribution

The internal DC logic power supply of SAC-DE series servodrives are powered and connected at terminals "r" and "t".   For proper operation, the factory AC power source for "r" must derive from the same phase which supplies the main power at terminal "R". This applies to "t" and "T", they must both derive from their own AC power phase. "R", "r" and L1 (on the controller) must be connected to one incoming line. Likewise, "T", "t" and L2 must be connected to a second incoming line. This wiring arrangement is shown in the controller manual (ORN-001 appendix B) and the SAC-D/DE Series Servodrive manual (SAC-D01 appendix A).

Failure to comply with the above can prevent the drive from enabling, or make the motor unable to run at maximum speed, and may cause permanent damage to the drive.

WARNING:
DO NOT SERVICE THE SERVODRIVE WHEN THE BUS POWER LED IS EVEN DIMLY ILLUMINATED. WAIT FOR IT TO BE COMPLETELY UNILLUMINATED   (SERVODRIVE BUS TO FULLY DISCHARGED) BEFORE SERVICING THE SERVODRIVE, THIS CAN TAKE SEVERAL MINUTES.

Understanding the DE-Series Servodrive Model Number:

Example: **SAC - DE 04 A 2 / A**

Subgroup Type
Continuous current Amps
Motor Matching reference (A to U)
Power Voltage "1"=115VAC,"2"=230VAC
A=Absolute Encoder I=Incremental Encoder

Terminal Connections:
Note: Lightly "TUG" on cable to check connection.
R T - Main Power
r t   - Control / logic power
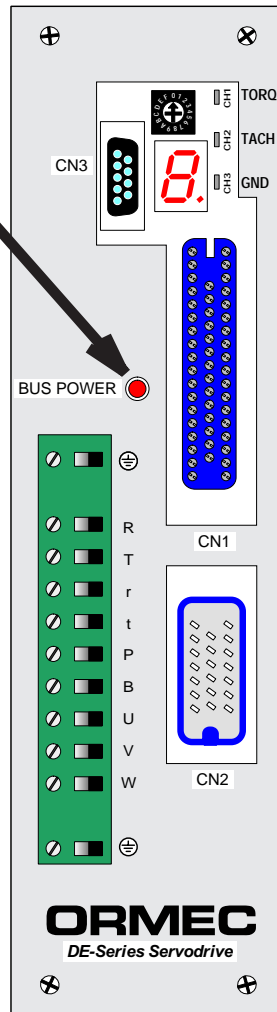**P B** - Regen Resistor Option
Motor Cable:
U - RED
V - WHITE
W - BLACK
Ground - Silver & Green wire.

CN1 - To ORMEC DSP
CN2 - To Motor Encoder

Servodrive Test Points:
TORQ CH1   Torque Monitor: +/- 2 VDC / 100% rated torque.
TACH CH2   Speed monitor: +/- 1 VDC / 1000 RPM
GND CH3   Monitor common

CN3

TORQ CH1
TACH CH2
GND CH3

BUS POWER

CN1

R
T
r
t
P
B
U
V
W

CN2

ORMEC
DE-Series Servodrive

For more detail, refer to
"Maintenance and Troubleshooting" Chapter 7 in the SAC-D01 Servodrive Manual.

7 Seg. LED	Status	Description
.	Normal Operation Servo Enabled	Servodrive is enabled and operating normally. Not an error.
-.	Normal Operation Servo Disabled	Servodrive output current is disabled in the output circuitry. Not an error.
0.	Configuration	Servodrive configuration data out of range or checksum error. Absolute encoder data error.
1.	Overcurrent	Servodrive commanding excess current output.
2.	Input power fuse	Input power fuse blown (SAC-DE only).
3.	Regenerative discharge fault.	Regenerative discharge circuit not operating properly. (or) Excessive regenerative current. (or) Servodrive configuration incorrect.
4.	High Bus Voltage	Excessive servodrive bus voltage.
5.	Overspeed	Servomotor speed is at least 10% higher then the maximum speed.
7.	Overload	Servomotor torque greater then twice rated torque for at least 3 sec. Load exceeds the motor torque rating. Check machine for binding.
8.	Optical Encoder Signal Error	The pole-sensor signals are either all high logic level or all low logic level. (or) Absolute encoder needs resetting.
A.	Heat sink temperature high	Servodrive heat sink temperature too high. Ambient temp exceeds 55C. Cause: Motor load excessive. (or) Defective drive fan.
b.	Invalid torque command input.	Servodrive torque command input eather absent or invalid. Check axis interface cabling.
C.	Encoder error	Encoder speed exceeded. (or) Incorrect servomotor / encoder wiring. (or) Encoder feedback data absent or invalid (Noise). (or) Open encoder wire.
F.	Input power loss.	Open power phase of main power. (R,T) absent or wrong voltage.

Rev DE-b