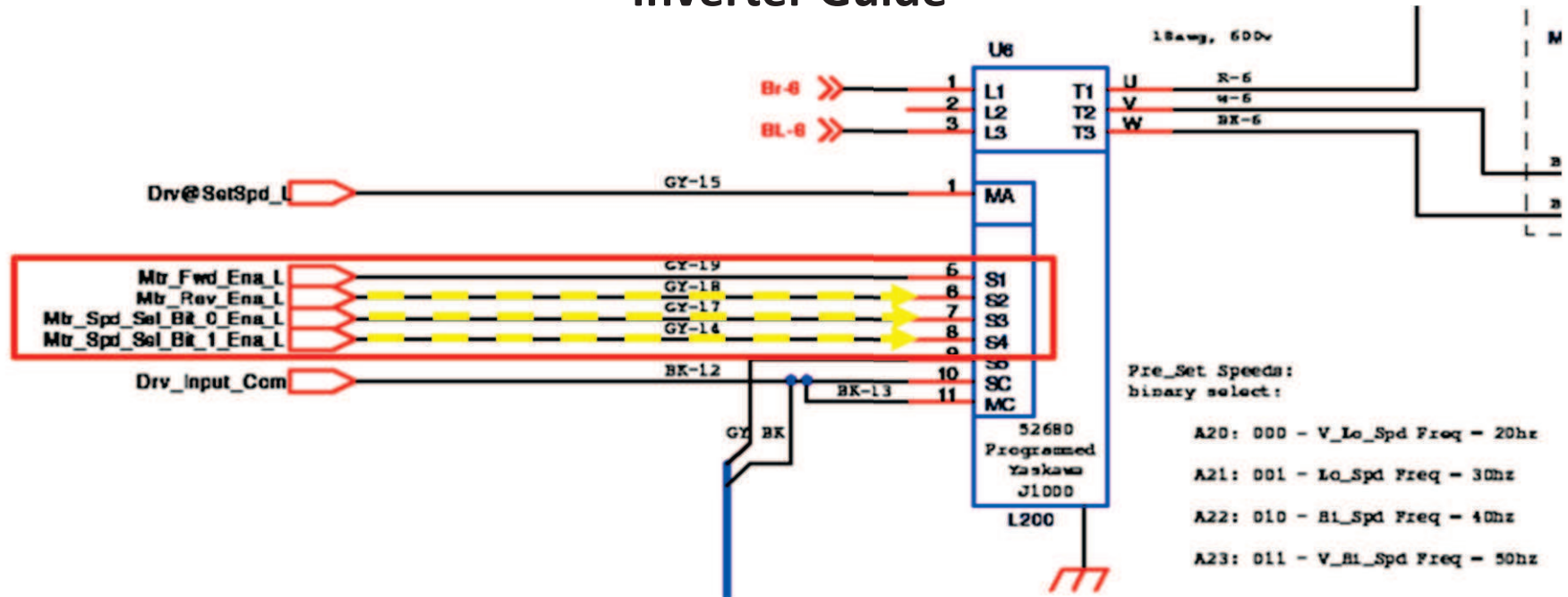


# Inverter Guide



Example Above = Turbo Reverse (24V DC Return from J2.9, J2.10 & J2.12 and no signal from J2.11)

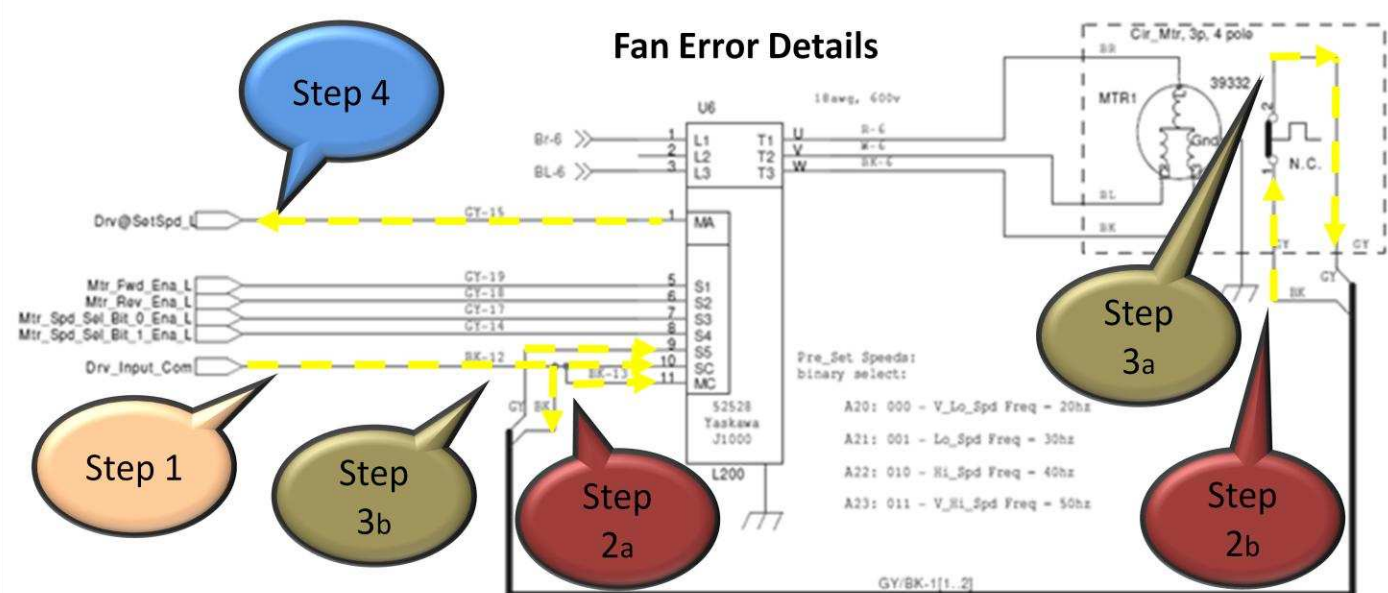
**Key: J2.9 is GY-17 to S3 / J2.10 is GY-14 to S4 / J2.11 is GY-19 to S1 / J2.12 is GY-18 to S2**

(Note: To check for the 24V DC Return Signal, Set your meter to read 24VDC and put your red lead in one of the top three holes in the center of TB4. If you read 24VDC from there to a test point, the return is present, if no voltage is seen, the return is not present.)

## Inverter Output

## Relay Board Outputs

Output Components	J2.9 (Bit 0)	J2.10 (Bit 1)	J2.11 (FWD)	J2.12 (REV)
Gentle Forward Outputs (20 Hz)	0v	0v	23Vdc Rtn	0v
Low Forward Outputs (30 Hz)	23Vdc Rtn	0v	23Vdc Rtn	0v
High Forward Outputs (40 Hz)	0v	23Vdc Rtn	23Vdc Rtn	0v
Turbo Forward Outputs (50 Hz)	23Vdc Rtn	23Vdc Rtn	23Vdc Rtn	0v
Gentle Reverse Outputs (-20Hz)	0v	0v	0v	23Vdc Rtn
Low Reverse Outputs (-30Hz)	23Vdc Rtn	0v	0v	23Vdc Rtn
High Reverse Outputs (-40Hz)	0v	23Vdc Rtn	0v	23Vdc Rtn
Turbo Reverse Outputs (-50Hz)	23Vdc Rtn	23Vdc Rtn	0v	23Vdc Rtn



(Note: To check for the 24V DC Return Signal, Set your meter to read 24VDC and put your red lead in one of the top three holes in the center of TB4. If you read 24VDC from there to a test point, the return is present, if no voltage is seen, the return is not present.)

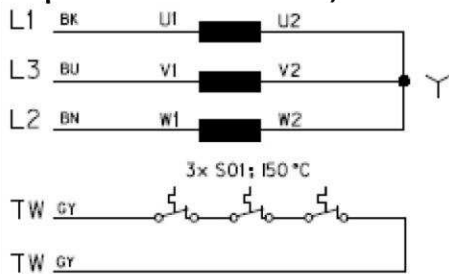
**Step 1 =**

TB4 (terminal block 4) sends 24V DC Return to the Drive Input Common Input (SC) at the Inverter on wire BK-12 (Black 12)

**Step 2 =**

(2a)The jumper BK-12 puts 24V DC Common to the MC terminal (2b) and the BK Jumper puts 24V DC Common to the Normally Closed Thermal Trip Switch(s) in the motor.

Below we see from the print from the motor, there are 3 switches in series.



Notice the switches open at 150°C or 302°F.

**Step3=**

(3a)The Normally closed switch, sends 24V DC Common (3b) to the S5 terminal on the Gray (GY) wire.

**Step 4=**

The Yaskawa Inverter has a built in Drive @ Speed Relay that closes when The drive is sending 3 phase power to the motor (T1, T2, &T3), which occurs when the input signals (S1-S4) are present and no alarms are present. The Drive @ Speed relay Normally Open terminal is at MA and the Common is S5, so when it is closed, whatever is present at S5, is sent out on the Drive @ Speed (GY-15) lead. (If the 24V DC Return is not present atS5, a fan error occurs or if an alarm opens the Drive @ Speed relay, a Fan Error occurs; because the control is always looking for a 24V DC Return at the J11.4 terminal of the Relay Board.)