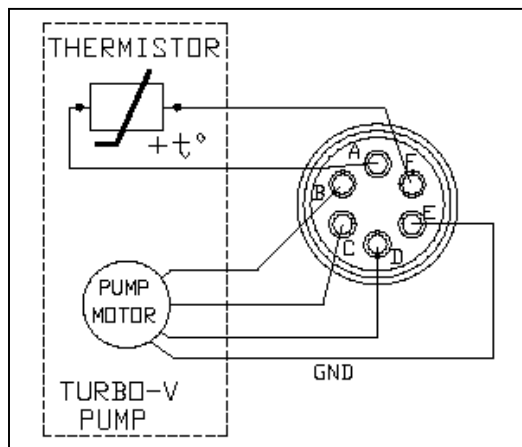


Trouble-shooting Reference

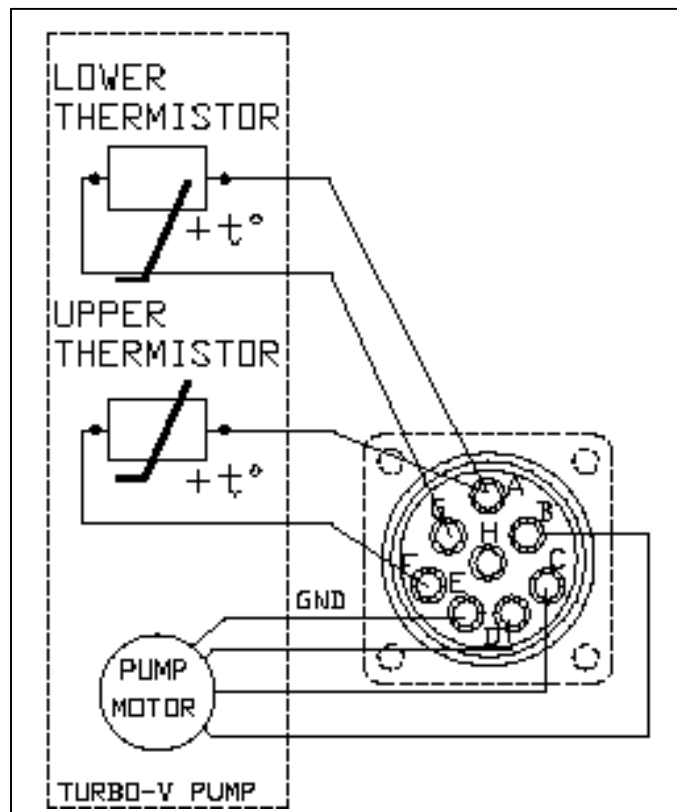
To verify the controller:

Place a resistance of 30 K Ω between pins A and F or A, F and G on the rear panel, or if you want to check the cable, at its end. Press START:

1. If you read STARTING you have a problem with firmware (mosfet), repair/exchange the unit;
2. If you read CHECK CONNECTION TO THE PUMP there is a fault in the controller, repair/exchange the unit;
3. If you read SHORT CIRCUIT, one or more phases in the controller are shorted; repair/exchange the unit;
4. If you read after some seconds NORMAL, with current 0 and power 0, controller is ok.



Examples from manuals



Check manual for your specific pump connection.

To verify the pump:

On the connector, check the resistance between pin A and F, it should be approximately 30 K Ω . On pumps with two thermistors you would also check between pins A and G. The chart below gives you the temperature to resistance comparison.

Check the resistance between B, C, and D (phases): it should be between 0.5 – 2.0 Ω .

Check the resistance between D and E (ground): it should be ∞ (infinity). If it's low, there is a short circuit on the pump: the pump needs to be replaced.

Turbo Temperature Sensor (NTC Type)

Temperature [$^{\circ}\text{C}$]	Resistance [K Ω]
- 55	2.080,470
- 50	1.522,140
- 40	830,490
- 30	464,610
- 20	267,732
- 10	156,453
0	94,113
5	73,824
10	58,329
15	46,443
20	37,218
25	30,000
30	24,200
35	19,703
40	16,130
45	13,269
50	10,971
55	9,096
60	7,580