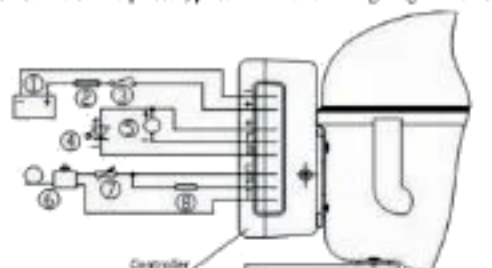


## Compressor Instruction

### 1. Performance

Model	BD25H Used for refrigerator below 300 liters			
Displacement	2.5 CM <sup>3</sup>			
Application	LBP			
Rotary Speed	2000 RPM	2500 RPM	3000 RPM	3500 RPM
Cooling Capacity	42 W	52 W	61 W	71 W
Input Power	35 W	43 W	50 W	59 W
Current	2.9 A	3.5 A	4.1 A	4.9 A
C.O.P	1.2 W/W			
Voltage	DC 10.9~17V, 22.7~31.5V			
Cooling Type	ST or FC			
Lubricating Oil	POE			
Compressor Weight	3.2 kg			
Controller Weight	0.4 kg			
Motor Type	BLDCM			
Refrigerant	R134a			
Throttle Type	Capillary			
Power Supply	DC 12V/24V			
Test Condition	Evap. Temp.: -23.3°C Cond. Temp.: 54.4°C Ambient Temp.: 32.2°C	Suction Temp.: 32.2°C Subcooling Temp.: 32.2°C Test Voltage: 12V DC		
Note	When 24V DC power inputs, the current is half of the above.			

2. **Controller:** BLDCM is used for this compressor, please check the wiring diagram as below and connect the compressors correctly:



- ① 12/24V Power Supply    ② Fuse Protector    ③ Power Switch  
④ Malfunction Indicator    ⑤ 12V Cooling Fan    ⑥ Temperature Control  
⑦ Resistance for Speed Adjustment    ⑧ Resistance Protector of Power Supply

- Controller must be connected with DC power terminal ①. Reversed connection will result in off work.
- To protect the controller, fuse protector ② must be connected at positive pole terminal. And it should be near the power supply as possible as you can. We recommend to use 15A fuse (12V DC) or 7.5A fuse (24V DC).
- If you add a main power switch ③, the rated current should not be less than 20A.
- Do not add any other circuit to avoid controller protect duo to overload voltage.
- Add a 10mA luminous diode between "+" and D. The error during compressor operation will be indicated by the flicker times, every flicker will last 1/4 second, each error will repeat every 4 seconds. If failed to start, another start will be tried after 60 seconds, till starts successfully. Please see below for reference:

Flicker times	Multifunction
5	Controller overheating protection
4	Min. rotary speed error
3	Compressor failed to start
2	Cooling fan overcurrent protection
1	Battery Voltage Protection

- Cooling fan is connected between F+ and F-. 12V DC cooling fan must be used for both 12V DC cooling system and 24V DC cooling system because the voltage between F+ & F- is permanent 12V DC. The current protection is 1A, we suggest use cooling fan of smaller than 5W.
- Temperature control ⑥ is connected between C and T, it will control the compressor to start or stop.
- Resistance for speed adjustment ⑦ is connected between C and T. The compressor rotary speed can be changed by adjusting the resistance value. The rotary speed can be adjusted at the range of 2000rpm~3500rpm. Resistance ⑦ and the rotary speed is corresponding as below:

Resistance ⑦	Rotary speed
0 Ω	2000 RPM
277 Ω	2500 RPM
692 Ω	3000 RPM
1523 Ω	3500 RPM

- Power supply protection resistance ⑧ is connected between C and P. Different resistance value will change the protection set of the battery voltage. The protection set of the battery voltage is corresponding with the resistance ⑧ as below:

Protection set Resistance (KΩ)	Protection voltage (V)	Min. Operation Voltage (V)	Max. Operation Voltage (V)	Protection voltage (V)	Min. Operation Voltage (V)	Max. Operation Voltage (V)
0	9.6	10.9	17	21.3	22.7	31.5
1.6	9.7	11	17	21.5	22.9	31.5
2.4	9.9	11.1	17	21.8	23.2	31.5
3.6	10	11.3	17	22	23.4	31.5
4.7	10.1	11.4	17	22.3	23.7	31.5
6.2	10.2	11.5	17	22.5	23.9	31.5
8.2	10.4	11.7	17	22.8	24.2	31.5
11	10.5	11.8	17	23	24.5	31.5
14	10.6	11.9	17	23.3	24.7	31.5
18	10.8	12	17	23.6	25	31.5
24	10.9	12.2	17	23.8	25.2	31.5
33	11	12.3	17	24.1	25.5	31.5
47	11.1	12.4	17	24.3	25.7	31.5
82	11.3	12.5	17	24.6	26	31.5
220	9.6	10.9				31.5

- Compressor controller can adjust to suitable voltage automatically, when voltage is lower than 17V, controller regards it working in 12V DC cooling system; when voltage is higher than 17V, the controller regards it working in 24V DC cooling system. If you add a 220KΩ resistance between C and T, then the compressor can work at the voltage of 9.6V~31.5V.

### 3. Compressor Accessories

1) Controller	1pc
2) Lock screw of controller	1pc
3) Rubber Foot mat	4pcs

### 4. Instruction of transportation and storage

- Keep vertical during transportation, do not reverse, avoiding big shake and shock.
- Store the compressor in the place of dry and good ventilation, avoid damped.
- 2 layer piled up is the limit for the carton packed compressor, turn over is forbidden during transportation.
- Stock date should not be longer than 6 month since come out from factory.

### 5. Announcements

- Compressor must be driven by the compressor controller, work voltage is 12V/24V, do not allow to connect AC power directly.
- Install the compressor promptly after the rubber plug is removed.
- The working ambient temperature should not be higher than 43°C, when working in the Max. ambient temperature, the Max. condensing pressure should not be higher than 1.75MPa, the Max. peak condensing pressure should not be higher than 2.17MPa.
- Pressure balance (43°C) When starting, there should not be pressure of 0.5MPa or above inside the compressor body.
- The next start should be delayed 5 minutes or above after the compressor stops.
- Do not use compressor for vacuum purpose, do not power the compressor in vacuum condition.
- Keep the cooling system clean, avoid chlorine ion, paraffins, etc.
- To start and operate the compressor regularly, the wiring of the power supply and controller must apply to the following sheet:

Wiring Sectional area (mm <sup>2</sup> )	Max. Length of Wiring	
	12V, DC	24V, DC
2.5	2.5	5
4	4	8
6	6	12
10	10	20

- Warranty:** Within 24 months after come out from factory. In the condition that customers apply to this instruction, our company is responsible for the damaged compressors result from production.

### 7. Exterior drawings:

