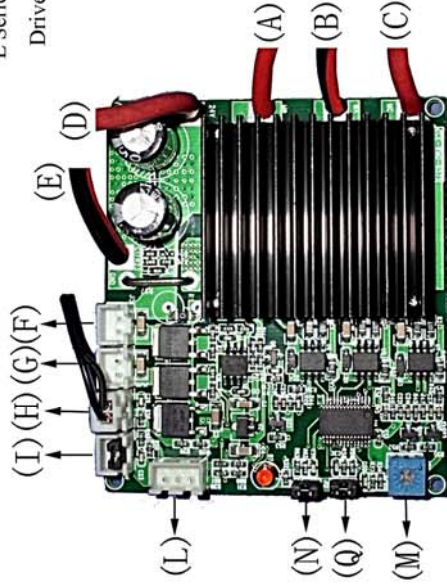


L Series Compressor
Driver Instruction



Wiring Instruction:

1. "A, B, C": Connect with the compressor terminal. If reversal rotary appears, change the position of two wires of the three.
2. "D, E": Connect with power supply, red wire for positive pole, black wire for negative pole.
3. "F" socket": Connect with the condenser fan. Note: Check out the positive pole and negative pole firstly, then connect the fan correspondingly.
4. "G socket": Connect the compressor cooling fan. Cooling fan will start automatically when the temperature of compressor housing is too high (about 100 degree Celsius). Note: Check out the positive pole and negative pole firstly, then connect the fan correspondingly.
5. "H socket": NTC sensor socket to get the temperature of compressor housing.
6. "I" socket": An important starting signal socket. Compressor starts only when this socket is conducting state. Or else, compressor does not work. "I" socket" can also be connected with a temperature control to start or stop the compressor. When using temperature control, the conducting state or non conducting state of this socket can be controlled by an audion, then compressor will run at the setting temperature.
7. "M": Speed control knob. Adjust the rotary speed to a suitable position according to different applications.
8. "L" socket": Connect with intelligent temperature control socket. Set the temperature on the temperature control. Operation of electrodeless frequency conversion speed or constant speed can be controlled by the protocol communication signal from the temperature control.
9. "N Q": Function selection socket. When "N" and "Q" is off, temperature control at "L" socket" sends protocol communication signal to the compressor driver. Compressor can operate at frequency conversion speed.
10. "Q" socket on, "N" socket off. Compressor is controlled by the temperature control at "L" socket", and will operate at constant speed according to the protocol communication signal from the temperature control at "L" socket".
11. "N and Q" both on. Compressor can operate without temperature control at "L" socket" when "I" socket" is conducting state. Constant speed operation can also be controlled by on/off of "I" socket" by a temperature control. This function can be done by on/off of an audion higher and low level.
12. "N and Q" both off, the function is the same with item 11.

Communication Mode Between Temperature Control and Compressor Controller

1. I2C communication mode is adopted. Temperature control is Master, compressor controller is slave.
2. Start and stop signal, adopt standard signal. As CLK is high, detect that DATA variation from high to low, it is the signal of starting communication. As CLK is high, detect that DATA variation from low to high, it is the signal of stop communication.
3. In order to decrease the interference from wire length, the communication clock tentatively fixes the frequency as 2MS high and 2MS low. During the communication, the master and slave need to periodically detect the communication port repeatedly. For example, detect 1 time every 250μs. The detection is regarded as correct only if 4 times or above detection are the same.

4. The communication does not need address signal, there are 3 data in total:

Serial NO.	Start signal	88BIT (Command)	88BIT (Control Mode)	88BIT (Speed high-order)	88BIT (Speed low-order)	Stop signal	Explanation
1			0X55 (Constant Speed Control)	0x00	0x00		Compressor off.
2				0xFF	0xFF		Compressor on.
3				0x00	0x00		Compressor off.
4				0xFF	0xFF		Compressor runs at full speed.
5		0X55 (Write Command)	0XAA (Intelligent control)	0X07	0XD0		Compressor runs at 2000RPM speed.
6				0X08	0X98		Compressor runs at 2200RPM speed.
7				0X09	0X60		Compressor runs at 2400RPM speed.
8				0X0A	0X28		Compressor runs at 2600RPM speed.
9			0X0A	0XF0		Compressor runs at 2800RPM speed.	
10			0X0A	0X88		Compressor runs at 3000RPM speed.	
11			0X0C	0X80		Compressor runs at 3200RPM speed.	
12		0XAA (Read command)	0X00(Set switch as constant speed control) 0XA5(Set switch as intelligent control)				The second read command
13		0XA0 (Read command)	0X00				The first read command

If the signal received is 0XFFFFFF when the master reads the slave, there will be problem on the communication wire.

5. There are 13 commands in total, 2 read command, 11 write command.
6. Command does not have Check Byte. After switch on, if the slave can not receive the command from master within 3s, then the slave needs to control the compressor operation according the condition of the manual switch on the control board. If master sends command, the slave will control the compressor operation according to the command received, and the slave will also send the condition of the switch back to the master according to requirements. If there is no command from the master, the slave must maintain the compressor of. The master will send one write command or read command at least every 1 second. The slave receives the command. If the command is the same with the executing command, the slave does not need to change the compressor condition. If the command is different with the executing command, the slave will control the compressor operation according to the new command.
7. The master will control the compressor operation according to the new command. The master will send the second read command immediately after the first read command is sent. The slave knows the master's visit when the first read command is received. After the 8 BIT command of the second recommend is received and the CLK becomes Low Level, DATA becomes outlet. After the 16 BIT command is sent and the CLK becomes Low Level, the DATA becomes inlet and waiting for the End Level. When the end signal is received, this communication is finished.
8. The communication above does not need answering signal.

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