

Figure 1.3.1-1 Shielded Cable Connector

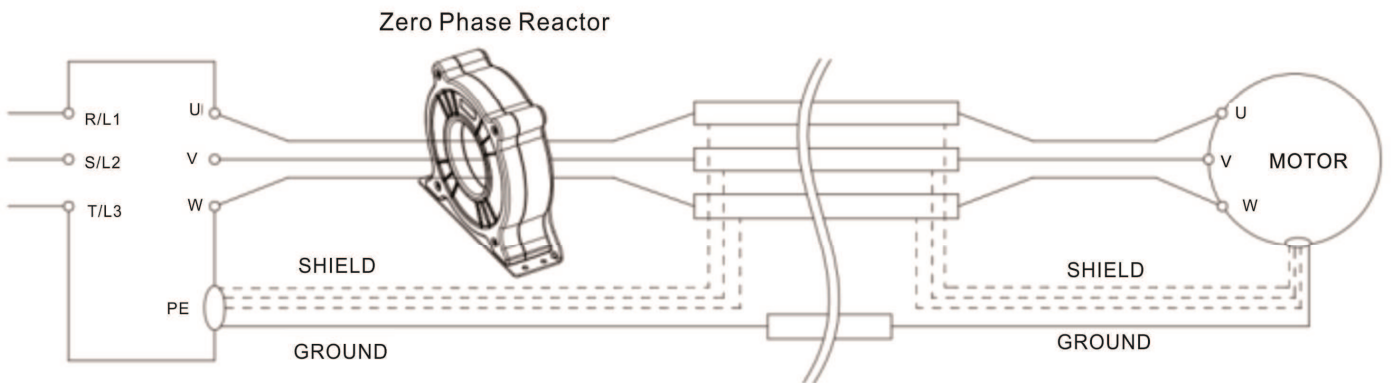


Figure 1.3.1-2: Single turn wiring diagram of a shielding wire with a zero-phase reactor

1.4 Zero-phase reactor

Installing a zero-phase reactor at the input or output side is another way to reduce interference. Because the current passing through the power input/output cord is high, attention should be paid to the saturation of the magnetic cord.

For the zero-phase power input/output cord, due to the heavy current load, the most ideal material is composite magnetic core which has strong anti-saturation and the resistivity is several times larger than pure magnetic metal, thus it can be used at higher frequencies, and high impedance can be achieved through the increase in the number of turns.

1.4.1 Installation

During installation, please pass the cable through at least one zero-phase reactor. Use an appropriate cable type for pressure resistance, flow resistance, insulation class and the diameter of the cord, i.e., the cable should pass through the zero-phase reactor appropriately. Please do not pass the cable through the grounding wire during wiring, only pass through the motor wire and power cord.

If a longer motor output wire is used, the zero-phase reactor can effectively reduce the interference at the output end. The installation of zero-phase reactor should be as close to the output of the frequency converter as possible. Figure 1.3.1-2 is the installation diagram of a single turn zero-phase reactor. If the diameter allows several turns, the installation of a multi-turn zero-phase reactor is as shown in Figure 1.4.1-1. The more turns, the better the noise suppression effect.

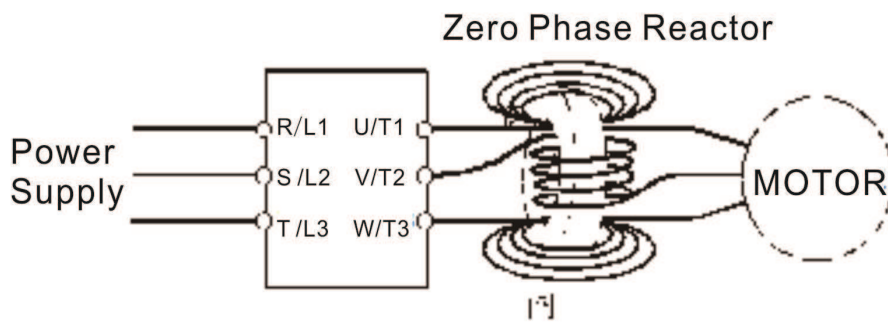


Figure 1.4.1-1 Multi-Turn Zero Phase Reactor

1.4.2 Installation notices

Install the zero-phase reactor at the output terminal of the frequency converter (U.V.W.). After the zero-phase converter is installed, it can reduce the electromagnetic radiation and load stress emitted by the wiring of the frequency converter. The number of zero-phase reactor required for a frequency converter depends on the length of wiring and the voltage of the frequency converter.

The normal operating temperature of the zero-phase reactor should be lower than 85°C (176°F). However, when the operation of the zero-phase reactor is saturated, its temperature may exceed 85°C (176°F). Please increase the number of zero-phase reactors to avoid saturation of the zero-phase reactor. The following are reasons that might cause saturation of the zero-phase reactors. For example: The wiring of the frequency converter is too long; the frequency converter drives several sets of load; the wiring is in parallel; the frequency converter uses high capacitance wiring. If the temperature of the zero-phase reactor exceeds 85°C (176°F) during the operation of the frequency converter, the number of the zero-phase reactor should be increased.