

## DV/DT 滤波器 (VTR) dvdt Filter

### ■ 产品概述 (Product Introduction)

PWM 逆变器直接驱动电机时会产生较高 dv/dt 的共模电压, 并由此产生轴承电流和共模漏电流以及严重的电磁干扰 (EMI), 特别是当逆变器通过长线电缆与电机连接时, 由于电缆中分布参数的影响, 会在电机端产生电压反射现象, 从而在电机端会产生 2 倍以上的过电压, 导致线圈绝缘失败, 我们的 dv/dt 滤波器降低电机电缆传输线效应电压的增大而衰减率, 并最大限度地减少在电机端子上所发生的峰值电压。

When the PWM inverter will produce high common mode voltage of dv/dt when directly driving the motor, resulting in bearing current and common-mode leakage current as well as severe electromagnetic interference (EMI). Especially when the inverter is connected to the motor with a long cable, the influence of the distribution parameters of the cable will result in voltage reflection, which will produce over-voltage of over two times at the motor terminal, causing failure of the coil insulation. However, our dv/dt filters can reduce the rate of decay due to increase of the effect voltage during transmission of the motor cable, and minimize the peak voltage generated at the motor terminal.



### ■ 产品应用 (Product Application)

1. 有效降低变频伺服电动机端的 dv/dt 电压;
  2. 防止传输电缆和伺服电机线圈的过早老化和击穿;
  3. 延长伺服电机的使用寿命, 提高伺服的可靠性和正常运行时间;
  4. 降低对邻近设备或线路的干扰传播;
  5. 减小电机接地泄露电流
  6. 减小打开滤波器与电机之间的接触器所引起的干扰
1. effectively reducing the dt/dv voltage of the inverter servo motor ends;
  2. preventing the transmission cable and the servo motor coil from early aging and breakdown;
  3. extending the service life of the servo motors and operation period and improving the servo's reliability;
  4. reducing the interference to the nearby equipment and circuits;
  5. reducing the motor grounding leaking current;
  6. reducing the interference when the contactor between filters and the motors is switched on;

### ■ 技术规格 (Technical Specifications)

1. 最大工作电压: 400V AC-1140V AC
2. 额定电流: 5~500A
3. 频率: 50-60Hz
4. 开关频率: 2~8KHz
5. 防护等级: IP00-IP20
6. 绝缘等级: class F, H
7. 使用环境: -10~+45°C, 额定值不会降低。最高可达+55°C, 在 45°C 以上, 每升高 1°C, 额定电流降低 2%
8. 最大电缆长度: 1000m
9. 最大电流: 1.5 × 额定电流, 持续 60S
10. 噪音: ≤65dB
11. 温升: ≤70K
12. 抗电强度: 铁芯-绕组 3000VAC/50HZ/5MA/10S 无飞弧击穿 (工厂测试)
13. 绝缘电阻: 1000VDC 绝缘阻值 ≥ 100MΩ

1. Work Voltage: 220VAC-1140VAC

2. Work Current: 5A-500A

3. Work Frq: 50/60HZ

4. Sching frequenc: 2~8KHZ

5. Protection class: IP00-IP22

6. Insulation Class: class F, H

7. Operation Environment: -10~+45°C, rated value won't lvrer, when higer than 55°C, and every 1°C, the current will step down 2%

8. Maximum cable length :1000m

9. Max Current: 1.5 × Rated current, continuous 60s

10. Noise: ≤65dB

11. Temperature Rise: ≤70K

12. Dielectric strength: Core Coil 3000VAC/50HZ/5MA/10s no electric arcing puncture (factory test)

13. Insulation Resistor: 1000VDC insulation resistance value ≥ 100MΩ

