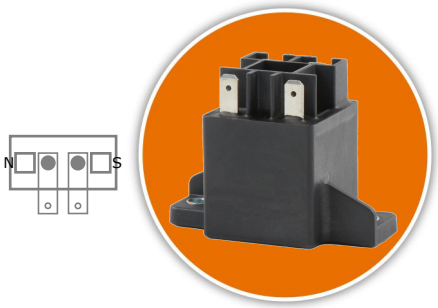
EVD20 Series

500Vdc / 20A DC Contactor Specification

Product description［产品描述］

■ Features［特性］

- ✓ Plastic packaging DC contactor with good waterproof and dustproof performance, arc does not leak out.［塑封直流接触器，具有较好的防水、防尘性能，电弧不外泄］
- ✓ High-voltage, high-current control capable.［具有高电压、大电流控制能力］
- ✓ Compact & low operating sound.［紧凑和低操作声音］
- ✓ Safety and high contact reliability.［安全和高接触可靠性］
- ✓ Can be installed in any direction.［可任意方向安装］



■ Applications［应用］

- ✓ Golf cart battery control system［高尔夫球车电池控制系统］
- ✓ Forklift truck battery control system［叉车电池控制系统］
- ✓ High-altitude car battery control system［高空作业车电池控制系统］
- ✓ Agricultural machinery and garden machinery battery control system［农用机械和园林机械电池控制系统］

■ For product details and the latest product specifications, please visit the following website［产品详细信息及最新产品说明书请浏览以下网站］

Google **www.alq-dccontactor.com**

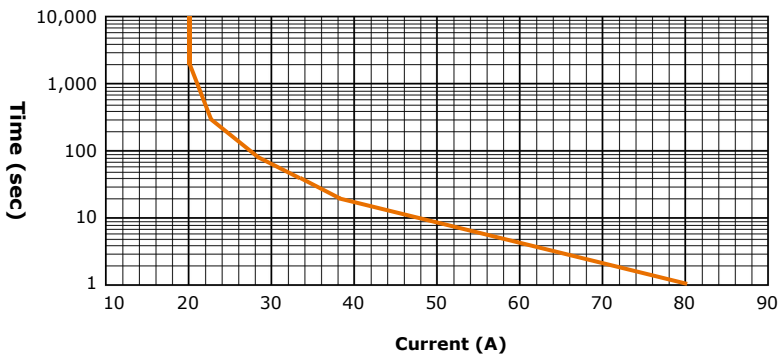
www.zgalq.com

Performance data［性能数据］

■ Power contact［主触点］

Parameter［参数］	Data［数据］
Contact arrangement［触点形式］	1 Form X (SPST-NO-DM) ［常开］
Contact polar［触点极性］	With polarity［有极性］
Contact material［触点材料］	Silver alloy［银合金］
Rated load voltage［额定负载电压］	500V DC
Max. Continuous current (at 23℃) ［最大连续电流］	20A

Short term withstand current［短时耐受电流］(at 85℃)



Notes［备注］:

1. The curve data is for buyers design reference, and the selection of DC contactor and short circuit matching fuse is subject to the actual verification［该曲线数据供用户设计参考，直流接触器选型与短路匹配熔断器时以实际验证为准］
2. Conductor size see ALQ-SPEC-000【DC Contactor User Manual】［导体尺寸请查看 ALQ-SPEC-000【直流接触器使用说明书】］
3. The set curve for the DC contactor power contacts has a safety temperature upper limit of 150℃; the functional temperature upper limit is 130℃.［该曲线设定的直流接触器主触点安全温度上限为 150℃；功能温度上限为 130℃］

Electrical life ［电气寿命］	Resistive load (R load) ［阻性负载］ L/R ≤ 0.1ms ON : OFF = 1s : 9s	Break ［分断］	500VDC	200 cycles (at 20A)
			200VDC	2,000 cycles (at 20A)
			80VDC	4,000 cycles (at 20A)
	Capacitive load (C load) ［容性负载］ (ON : OFF = 1s : 9s)	Make ［接通］	48V DC	20,000 cycles (at 200A)
			24V DC	50,000 cycles (at 200A)
Max. cut-off current ［最大切断电流］			100A	1 cycle (at 80V)
			60A	1 cycle (at 200V)
Mechanical life ［机械寿命］ (ON : OFF = 1s : 9s)			200,000cycles	
Initial contact resistance (at 1A) ［初始接触电阻］			Max.［最大］: 30mΩ	Typical ［典型］: 1mΩ
Operate Time (at 23℃) ［动作时间］		Close ［吸合］	30ms Max. ⟨01	
		Bounce ［弹跳］	5ms Max.	
		Release ［释放］	10ms Max. ⟨02	

⟨01 Coil nominal voltage, includes contact bounce time. ［线圈施加额定工作电压，含触点弹跳时间］
⟨02 Coil nominal voltage, includes arcing, without diode. ［线圈施加额定工作电压，含电弧，无续流二极管］

■ Coil（at 23℃）［线圈］

Parameter ［参数］	Data ［数据］	
Coil type ［线圈形式］	Single coil, no TVS ［单线圈，无 TVS］ ⟨03	
Rated voltage ［额定工作电压］	12V DC	24V DC
Pick-up (close) voltage Max. ［吸合电压］ ⟨04	9V DC	18V DC
Drop-out (open) voltage Min. ［释放电压］ ⟨04	1V DC	2V DC
Coil resistance (±10%) ［线圈电阻］ ⟨04	48Ω	192Ω
Holding current (Avg.) ［保持电流（平均值）］	250mA (at 12V DC)	125mA (at 24V DC)
Steady-state power consumption (Approx.) ［稳态功耗（大约）］ ⟨04	3W (at 12V DC)	3W (at 24V DC)
Operating voltage range ［工作电压范围］	10.2-13.2V DC	20.4-26.4V DC

⟨03 The product is not equipped with a TVS (Transient Voltage Suppressor) coil surge absorption circuit; buyers need to configure it. ［该产品未配置线圈浪涌吸收电路（TVS），用户需配置。］
⟨04 Because the DC contactor is operated by a coil that changes resistance with temperature: When the temperature is higher than 23℃, coil resistance, pick-up voltage and drop-out voltage will be higher than the nominal value, and the coil power will be lower than the nominal value. When the temperature is below 23℃, coil resistance, pick-up voltage and drop-out voltage will be lower than the nominal value, and the coil power will be higher than the nominal value. ［因为直流接触器是通过一个随温度变化电阻的线圈来操作的。当温度高于 23℃时，线圈电阻、吸合电压和释放电压会高于标称值，而线圈功率会低于标称值。当温度低于 23℃时，线圈电阻、吸合电压和释放电压会低于标称值，而线圈功率会高于标称值。］

■ Insulation ［绝缘］

Parameter ［参数］		Data ［数据］
Insulation resistance (at 1000V DC) ［绝缘电阻］ ⟨05		Initial［初始］: 100MΩ Min.
		End of life［寿命终结］: 50MΩ Max.
Dielectric withstanding voltage ［介质耐压］ (at sea level ［海平面］)	Between open contacts ［主触点间］	AC 2,500 Vrms for 1min. ⟨06
	Between contacts and coil ［主触点与线圈间］	

⟨05 Measurement at same location as "Dielectric withstanding voltage" section. ［测量位置与“介质耐压”部分相同］
⟨06 Leakage current ［漏电流］: 10mA

■ Environmental［环境］

Parameter［参数］		Data［数据］
Shock（1/2 Sine, 11ms）［冲击］	Actuated (closed)［吸合］	20G
	Non-Actuated (open)［断开］	10G
Vibration, Sinusoidal（80-2000Hz Peak）［正弦振动］		4G
Environmental seal［环境密封］		IP67
Salt fog［盐雾］		GB/T2423.17 / IEC60068-2-11
Operating ambient temp range［使用环境温度］		-40℃ to +85℃
Storage ambient temp range［储存环境温度］		-40℃ to +85℃
Ambient humidity［环境湿度］		5%～95% RH
Altitude［海拔高度］		≤2000m

Dimensions［尺寸］ (Dimensions are in mm［尺寸单位为毫米］)

- **coil terminals ［线圈端子］**

▲1 Thickness x Width = 0.8×4.8［厚×宽=0.8×4.8］
▲2 Thickness x Width = 0.8×6.3［厚×宽=0.8×6.3］

- **Mounting［安装］**

▲3 Base［底座］
Torque 3 to 4Nm (Typical 3.5Nm)［扭矩 3 至 4Nm（典型 3.5Nm）］
Mounting hardware (not supplied)［安装硬件（不提供）］:
2 X M5 Bolt［2 个 M5 螺栓］
2 X M5 Washer［2 个 M5 平垫圈］
2 X M5 Spring washer［2 个 M5 弹簧垫圈］

- **Label［标签］**

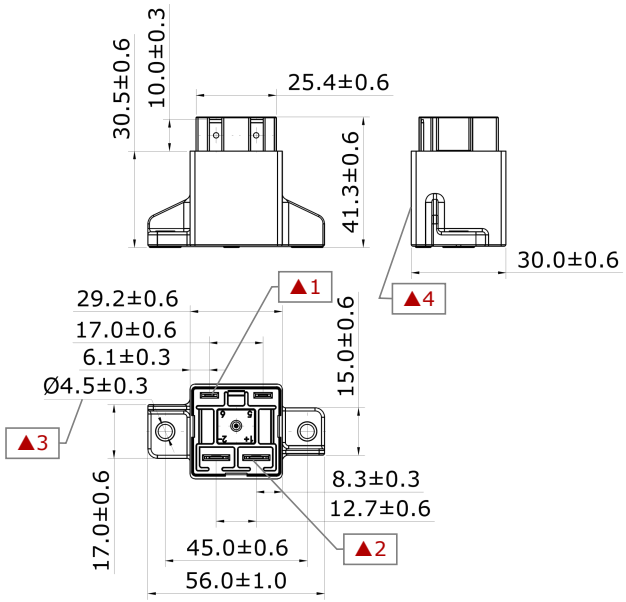
▲4 Label position［标签位置］

- **Packaging［包装］**

70 units per shipping box［70 个/箱］
400mm x 385mm x 115mm shipping box［包装箱尺寸：长×宽×高］

- **Weight［重量］**

55g per product (typical)［55 克/个（典型）］
4.98kg per shipping box (typical)［4.98 千克/箱（典型）］



Part numbering system［零件编码系统］

EVD	20	C	12	Q	A	XXX

■ **Series［系列］:**
"**EVD**"=EVD series［EVD 系列］

■ **Rated current［额定电流］:**
"**20**" = 20A

■ **Contact form［触点形式］:**
"**C**" = Power contact (1 Form X) with polarity, without auxiliary contact
［主触点（一组常开）有极性，无辅助触点］

■ **Coil voltage［线圈电压］:**
"**12**" = 12V DC
"**24**" = 24V DC
"**48**" = 48V DC

■ **Coil terminal structure［线圈端子结构］:**
"**Q**" = Plug terminal［插片端子］

■ **Installation mode［安装方式］:**
"**A**" = Bottom mounting［立式安装］

■ **Special client code［特殊客户代码］:**
When buyers have special requirements, buyer special requirements are determined by ALQ after review, whether they are numbers or letters (they do not affect the construction and performance). Omit when no special requirements［当用户存在特殊要求时使用，用户特殊要求由安来强评审后确定数字或字母（它们不影响构造和性能）。无特殊要求时省略］

Please refer to the ALQ-SPEC-000 "DC Contactor User Manual" for more information, which is an inseparable part of this document.［请查看 ALQ-SPEC-000【直流接触器使用说明书】获取更多内容，该文件是本文件不可分割的一部分］