HHZ®

厦门市宏拉科技股份有限公司

产品手册

高压直流接触器

品质铸造未来

创新改变世界

新能源乘用车 01 产品系列

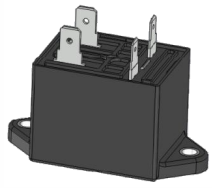
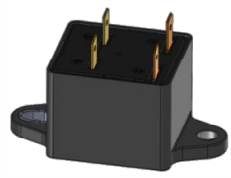
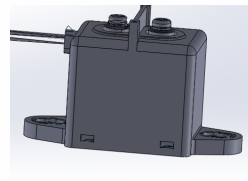
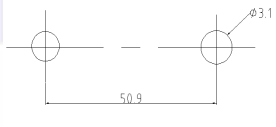
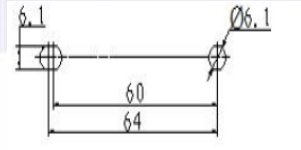
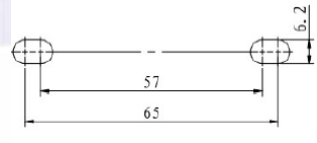
Product advantages and features
产品优势和特点

1、陶瓷腔体密封
2、氢气快速灭弧
3、钎焊和激光焊接，强度高，更安全可靠
4、额定电流20A-400A，额定电压450VDC-1000VDC

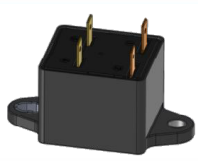
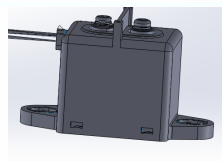
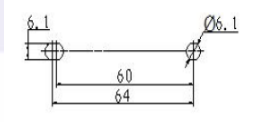
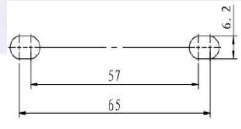
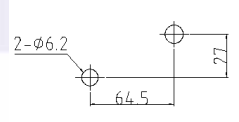
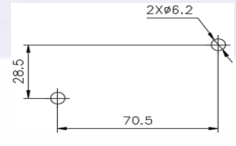
Main application areas
主要应用领域

1、纯电动车（BEV）
2、插电式混合动力车（PHEV）
3、混合动力车（HEV）

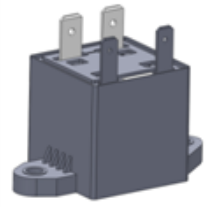
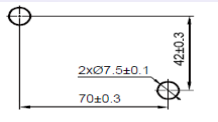
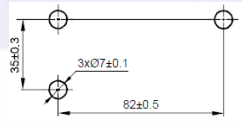
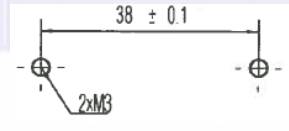
New Energy Passenger Vehicles Contactor
新能源乘用车/01

产品型号 Model No	PAE8V 20B	PAE8V 20	PAE8V 40
产品图片 Picture			
额定电流 Rated Load Current	20A	20A	40A
额定电压 Rated Load Voltage	450VDC	450VDC/750VDC/1000VDC	450VDC/750VDC/1000VDC
最大分断电流 Max. Breaking Current	35A / 450VDC(≥1 cycle)	200A / 300VDC(≥1 cycle)	400A / 300VDC(≥1 cycle)
接触电阻 Contact Resistance	≤5mΩ (@20A)	≤5mΩ (@20A)	≤5mΩ (@40A)
动作时间 Operate Time	≤30ms	≤30ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥1×10^4 ops	≥4×10^4 ops	≥3×10^4 ops
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	2000VAC (50Hz,1min)	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	3000VAC (50Hz,1min)	3500VAC (50Hz,1min)	4000VAC (50Hz,1min)
绝缘电阻 Insulation Resistance	1000 MΩ (@500 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	3W	3W	3W
工作环境温度 Operating Ambiance Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A	1 Form A
外形尺寸 Size	61.8×30×42.6mm/ 40×30×36.6mm	78.0mm×39.6mm×46.1mm/ 45.0mm×39.6mm×46.1mm	79.2mm×36.7mm×48mm
产品重量 Weight Approx	60g	150g	180g
线圈引出端方式 Coil Lead Out Method	QC	QC	连接器
负载引出端方式 load Lead Out Method	QC	QC	M4内螺纹
安装孔尺寸 nstallation hole size			

New Energy Passenger Vehicles Contactor
新能源乘用车/02

PLID型号 Model No	PAE8V 60B	PAE8V 150D	PAE8V 200B	PAE8V 300B
产品图片 Picture				
额定电流 Rated Load Current	60A	150A	200A	300A
额定电压 Rated Load Voltage	450VDC/750VDC/1000VDC	450VDC/750VDC	450VDC/750VDC	450VDC/750VDC/1000VDC
最大分断电流 Max. Breaking Current	200A / 300VDC(≥1 cycle)	1500A / 300VDC(≥1 cycle)	2000A/450VDC(≥1 cycle)	2000A / 300VDC(≥1 cycle)
接触电阻 Contact Resistance	≤5mΩ (@60A)	≤5mΩ (@150A)	≤0.5mΩ (@200A)	≤0.25mΩ (@250A)
动作时间 Operate Time	≤30ms	≤30ms	≤30ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥1×10^3 ops	≥1.5×10^3 ops	≥1×10^3 ops	≥1×10^3 ops
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	3500VAC (50Hz,1min)	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)	3000VAC (50Hz,1min)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤75% Un	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	3W	3W	6W	6W
工作环境温度 Operating Ambiance Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A	1 Form A	1 Form A
外形尺寸 Size	78.0mm×39.6mm×46.1mm	79.2mm×36.7mm×48mm	立式：81×39×70mm 卧式：81.7×39.5×69.6mm	88.3mm×42.5mm×74.5mm
产品重量 Weight Approx	150g	180g	350g	370g
线圈引出端方式 Coil Lead Out Method	QC	连接器	连接器	连接器
负载引出端方式 load Lead Out Method	QC	M4内螺纹	M6内螺纹	M6内螺纹
安装孔尺寸 IInstallation hole size				

New Energy Passenger Vehicles Contactor
新能源乘用车/03

产品型号 Model No	PAE8V 300M	PAE8V 400M	PAE8V 20C
产品图片 Picture			
额定电流 Rated Load Current	300A	400A	20A
额定电压 Rated Load Voltage	450VDC/750VDC/1000VDC	750VDC/1000VDC/1000VDC	750VDC
最大分断电流 Max. Breaking Current	2000A / 450VDC(≥1 cycle)	2000A / 1000VDC (≥1 cycle)	30A / 450VDC(≥5cycle)
接触电阻 Contact Resistance	主触点≤0.3mΩ (@400A) 辅助触点≤ 150mΩ(at 1A)	≤0.15mΩ (@400A)	≤5mΩ (@20A)
动作时间 Operate Time	≤30ms	≤50ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥1×10^2 ops 300A/1000VDC	3×10^2 ops 400A/1000VDC	3×10^3 ops 20A/450VDC
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)	2000VAC (50Hz,1min)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	4000VAC (50Hz,1min)	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@500 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤80% Un	≤80% Un	≤75% Un
线圈功耗 Coil Operating Power	启动时60W 保持时4W	6W	3W
工作环境温度 Operating Ambiance Temperature	-40℃ ~ +85 ℃	-40℃ ~ +85 ℃	-40℃ ~ +85℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A	1 Form A
外形尺寸 Size	84.5mm × 62.5mm × 72.3mm	95.8mm × 49mm × 93mm	43.9 × 30 × 30.5mm
产品重量 Weight Approx	650g	750g	50g
线圈引出端方式 Coil Lead Out Method	连接器	连接器	QC
负载引出端方式 load Lead Out Method	M6内螺纹	M6内螺纹	QC
安装孔尺寸 nstallation hole size			

新能源商用车 02 产品系列

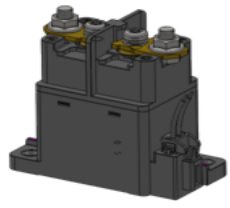
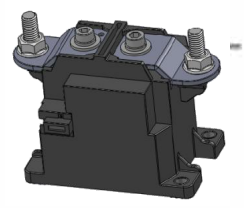
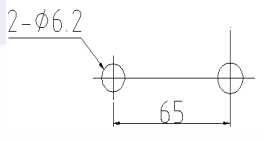
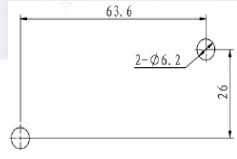
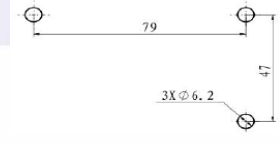
Product advantages and features
产品优势和特点

1、陶瓷腔体密封
2、氢气快速灭弧
3、钎焊和激光焊连接，强度高，更安全可靠
4、额定电流60A-600A，额定电压450VDC-1000VDC

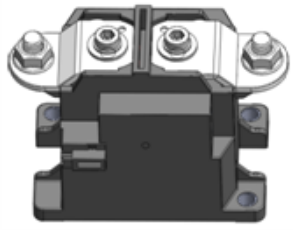
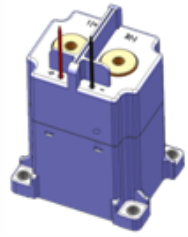
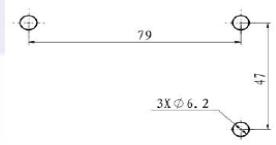
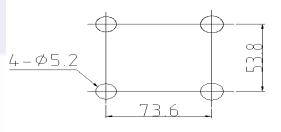
Main application areas
主要应用领域

1、微客（面包车）
2、轻/微卡
3、载货车
4、牵引车
5、重卡
6、工程机械

New Energy Commercial Vehicles Contactor
新能源商用车/01

产品型号 Model No	PAE8V 60	PAE8V 100	PAE8V 300
产品图片 Picture			
额定电流 Rated Load Current	60A	100A	300A
额定电压 Rated Load Voltage	750VDC/1000VDC	750VDC/1000VDC	750VDC/1000VDC
最大分断电流 Max. Breaking Current	600A / 300VDC(≥1 cycle)	1000A / 300VDC(≥1 cycle)	2500A / 300VDC(≥1 cycle)
接触电阻 Contact Resistance	≤5mΩ (@60A)	≤1mΩ (@100A)	≤0.2mΩ (@300A)
动作时间 Operate Time	≤30ms	≤30ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥1×10^4 ops	≥6×10^3 ops	≥6×10^3 ops
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	3W	4.5W	4.5W
工作环境温度 Operating Ambiance Temperature	-40℃ ~ +85 ℃	-40℃ ~ +85 ℃	-40℃ ~ +85 ℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A	1 Form A
外形尺寸 Size	79.2mm × 36.7mm × 48mm	81.5mm × 40.0mm × 76.3mm	112.6mm × 64.7mm × 83.9mm
产品重量 Weight Approx	180g	400g	850g
线圈引出端方式 Coil Lead Out Method	连接器	连接器	连接器
负载引出端方式 load Lead Out Method	M4内螺纹	M5内螺纹	M8螺栓
安装孔尺寸 nstallation hole size			

New Energy Commercial Vehicles Contactor
新能源商用车/02

产品型号 Model No	PAE8V 400	PAE8V 600
产品图片 Picture		
额定电流 Rated Load Current	400A	600A
额定电压 Rated Load Voltage	450VDC/750VDC/1000VDC	750VDC/1000VDC/1500VDC
最大分断电流 Max. Breaking Current	2500A / 300VDC(≥1 cycle)	2500A / 800 VDC
接触电阻 Contact Resistance	≤0.2mΩ (@400A)	≤0.2mΩ (@600A)
动作时间 Operate Time	≤30ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥3×10^3 ops	≥1×10^3 ops
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	3000VAC (50Hz,1min)	3000VAC (50Hz,1min)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	4.5W	10W
工作环境温度 Operating Ambiance Temperature	-40℃~+85 ℃	-40℃~+85 ℃
工作环境湿度 Operating Ambiance Humidity	5% ~85%RH	5% ~85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A
外形尺寸 Size	112.6mm×64.7mm×83.9mm	86.4mm×66.8mm×118mm/ 194.4mm×66.8mm×121.5mm
产品重量 Weight Approx	850g	1020g/1300g
线圈引出端方式 Coil Lead Out Method	连接器	连接器
负载引出端方式 load Lead Out Method	M8螺栓	M5内螺纹
安装孔尺寸 nstallation hole size		

储能和充电桩 03 产品系列

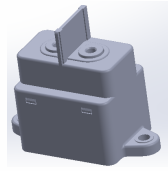
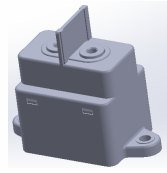
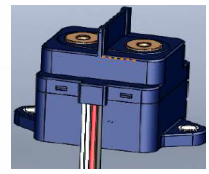
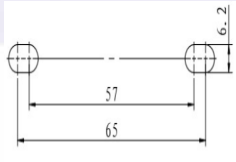
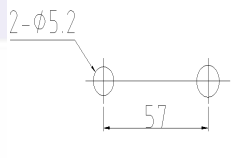
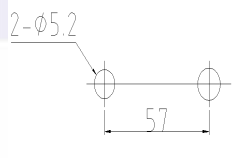
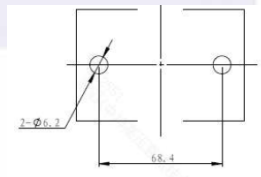
Product advantages and features
产品优势和特点

1、陶瓷腔体密封
2、氢气快速灭弧
3、钎焊和激光焊连接，强度高，更安全可靠
4、带有辅助触点
5、额定电流20A-800A，额定电压1000VDC-2000VDC

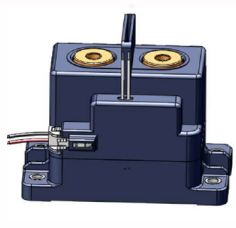
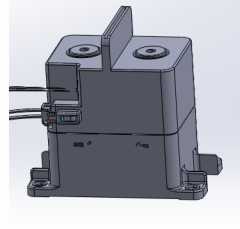
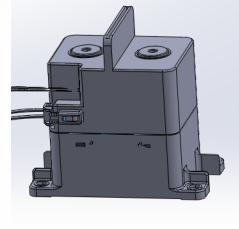
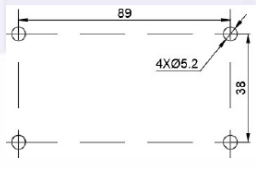
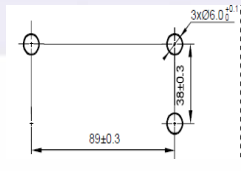
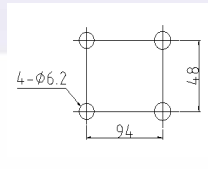
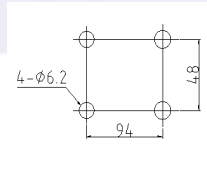
Main application areas
主要应用领域

1、一体式充电桩
2、分体式充电桩
3、充换电站
4、工商业储能
5、大储

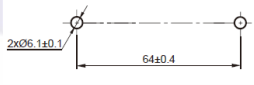
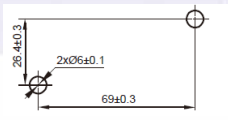
Energy Storage / Charging Station
储能和充电桩/01

产品型号 Model No	PAE8P 40	PAE8P 62A	PAE8P 62C	PAE8P 63C
产品图片 Picture				
额定电流 Rated Load Current	40A	200A	200A	300A
额定电压 Rated Load Voltage	1500VDC	1000V	1000VDC	1000VDC
最大分断电流 Max. Breaking Current	400A / 300VDC(≥1 cycle)	1000A / 300VDC(≥1 cycle)	1000A / 300VDC(≥1 cycle)	2000A / 300VDC(≥1 cycle)
接触电阻 Contact Resistance	≤5mΩ (@40A)	≤3mΩ (@200A)	≤3mΩ (@200A)	≤3mΩ (@200A)
动作时间 Operate Time	≤30ms	≤30ms	≤30ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥3×10^2 ops	≥8×10^2 ops	≥5×10^2 ops	≥8×10^2 ops
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	3000VAC (50Hz,1min)	4000VAC (50Hz,1min)	3000VAC (50Hz,1min)	4000VAC (50Hz,1min)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)	4000VAC (50Hz,1min)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤75% Un	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	3W	4.5W	4.5W	5W
工作环境温度 Operating Ambiance Temperature	-40℃~+85 ℃	-40℃~+85 ℃	-40℃~+85 ℃	-40℃~+85 ℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A	1 Form A	1 Form A
外形尺寸 Size	79.2mm×36.7mm×48mm	71.8mm×36mm×58.7mm	70mm×38.8mm×58.7m	83.4mm×50.8mm×69.9mm
产品重量 Weight Approx	180g	185g	185g	320g
线圈引出端方式 Coil Lead Out Method	连接器	线束	线束	线束
负载引出端方式 load Lead Out Method	M4内螺纹	M5内螺纹	M5内螺纹	M5内螺纹
安装孔尺寸 nstallation hole size				

Energy Storage / Charging Station
储能和充电桩/02

产品型号 Model No	PA E8P 350P	PA E8P 400P	PA E8P 600P	PA E8P 800P
产品图片 Picture				
额定电流 Rated Load Current	350A	400A	600A	800A
额定电压 Rated Load Voltage	1000VDC/2000VDC	1000VDC/1500VDC	1000VDC/1500VDC	1500VDC
最大分断电流 Max. Breaking Current	2000A / 300VDC(≥1 cycle)	2500A / 300VDC(≥1 cycle)	2500A / 300VDC(≥1 cycle)	2500A / 300VDC(≥1 cycle)
接触电阻 Contact Resistance	≤0.3mΩ (@400A)	主触点≤0.25mΩ (@400A) 辅助触点≤150mΩ (@1.0A)	≤0.2mΩ (@600A)	≤0.5mΩ (@800A)
动作时间 Operate Time	≤30ms	≤50ms	≤30ms	≤50ms
释放时间 Release Time	≤10ms	≤20ms	≤10ms	≤30ms
电气耐久性 Electrical Endurance	≥2×10^3 ops	≥1×10^3 ops	≥5×10^2 ops	≥5×10^2 ops
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	5000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	5000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1500 VDC)	1000 MΩ (@1000 VDC)	1000 MΩ (@1000 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤80% Un	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	启动时46W;保持时4.5W	启动时50W;保持时5W	10W	10W
工作环境温度 Operating Ambiance Temperature	-40℃~+85 ℃	-40℃~+85 ℃	-40℃~+85 ℃	-40℃~+85 ℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A	1 Form A	1 Form A
外形尺寸 Size	104mm×65mm×97.4mm	104mm×52mm×104mm	108mm×67mm×101.6mm	86.4mm×66.8mm×123.1mm
产品重量 Weight Approx	730g	800g	850g	1050g
线圈引出端方式 Coil Lead Out Method	连接器	连接器	连接器	连接器
负载引出端方式 load Lead Out Method	M6内螺纹	M8内螺纹	M6内螺纹	M6内螺纹
安装孔尺寸 nstallation hole size				

Energy Storage / Charging Station

储能和充电桩/03

产品型号 Model No	PA E8P 20A	PA E8P 250
产品图片 Picture		
额定电流 Rated Load Current	20A	250A
额定电压 Rated Load Voltage	450VDC/ 750VDC/1000VDC	1000VDC/1500VDC
最大分断电流 Max. Breaking Current	200A / 100VDC(≥1 cycle)	800A / 1500VDC(≥1 cycle)
接触电阻 Contact Resistance	≤4.5mΩ(@20A)	主触点≤0. 3mΩ (@250A) 辅助触点≤100mΩ (@0.5A)
动作时间 Operate Time	≤30ms	≤30ms
释放时间 Release Time	≤10ms	≤10ms
电气耐久性 Electrical Endurance	≥3×10^4 ops 20A / 1000VDC	≥1×10^3 ops 250A / 1000VDC
机械耐久性 Mechanical Endurance	≥2×10^5 ops	≥2×10^5 ops
绝缘耐压触点之间 Dielectric Strength Between Contacts	3000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)
绝缘耐压线圈与触点 Dielectric Strength Coil To Contacts	4000VAC (50Hz,1min) 漏电流 (1mA)	4000VAC (50Hz,1min) 漏电流 (1mA)
绝缘电阻 Insulation Resistance	1000 MΩ (@1000 VDC)	1000 MΩ (@1500 VDC)
线圈额定电压 Coil Rated Voltage	12V/24V	12V/24V
线圈动作电压 Coil Pick-up Voltage	≤75% Un	≤75% Un
线圈功耗 Coil Operating Power	2.6W	启动时36W;保持时6W
工作环境温度 Operating Ambiance Temperature	-40℃ ~ +85 ℃	-40℃ ~ +85 ℃
工作环境湿度 Operating Ambiance Humidity	5% ~ 85%RH	5% ~ 85%RH
振动 Vibration	10Hz~500Hz，49m/s²	10Hz~500Hz，49m/s²
触点形式 Contact Form	1 Form A	1 Form A
外形尺寸 Size	78mm × 39.8mm × 35.0mm	104mm × 52mm × 104mm
产品重量 Weight Approx	100g	380g
线圈引出端方式 Coil Lead Out Method	QC	连接器
负载引出端方式 load Lead Out Method	QC	M6内螺纹
安装孔尺寸 nstallation hole size