

High Voltage DC MCB

(Non-polar charge and discharge
bidirectional protection circuit)

高压直流断路器 (无极性充放电双向保护)



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SINGI® 信基伟业

绿色智能电气制造商
Green Intelligent Electrical Manufacturer

国家高新技术企业
National High-tech Enterprise



浙江信基电气股份有限公司工业园
Zhejiang Singi Electrical LLC



上海奉贤庄行欧洲工业园区的上海信基工业园
Shanghai Singi Electrical Co. Ltd

品牌介绍

COMPANY PROFILE

信基伟业始创于1995年，是目前国内知名的建筑电气 & 智能家居集成商；专业研发和生产智能光纤信息箱、墙壁式无线路由器、吸顶式无线路由器、电脑线、电视线、照明配电箱、小型断路器、家居安防线缆、开关插座等。

先后通过ISO9001、ISO14001、ISO45001国际标准三体系认证及UL、CE、CB、ETL等国际产品认证；拥有50多项专利，60多份CCC强制认证、获得"中国电工十大品牌"、"中国建筑电气知名品牌"、"保障性安居工程推荐品牌"等70多项荣誉等。

Singi Electric was established in 1995 and now become the well-known building electric integrator. Singi are professional in producing fiber information box, wall-type WIFI router, roof-type WIFI router, low voltage cables, circuit breaker, wall switch and etc.

Singi has passed ISO9001, ISO14001, ISO45001 international three system certification. Also get the international production certification of the UL, CE, CB, ETL and etc. Singi have over 50 copy rights, over 60 CCC certification. During the 20 years production experience, Singi get the over 70 titles such as "top 10 electric brand in China", "Chinese building electric well-known brand", "Government-subsidized housing project recommend brand" and etc.



公司实力

COMPANY STRENGTH:

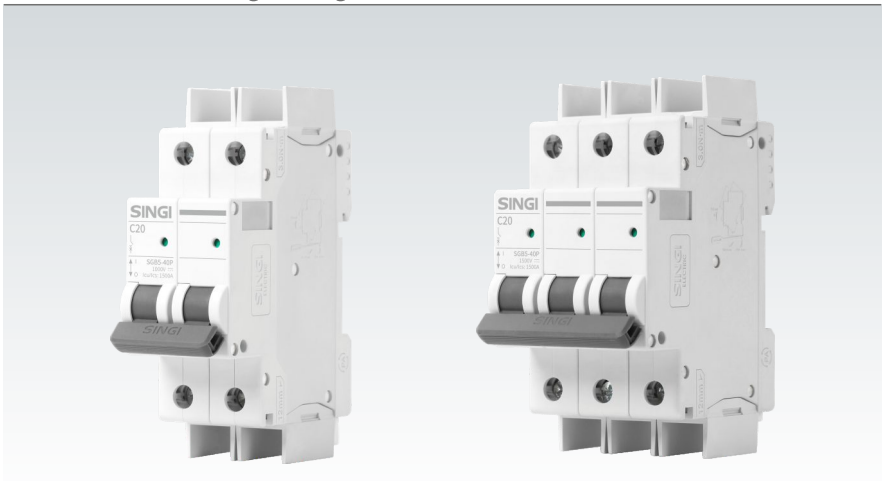
公司拥有各类生产线20多条，各类大型生产、检测设备300多台，生产员工800多人，各种管理及技术人员100来人，精良的检测设备，专业的人才确保信基每一件产品均为精品，我们每一只产品出厂前100%检测，确保每一只出厂产品为合格品。

Singi have over 20 production lines, over 300 production machine and test equipments. We have over 800 workers, over 100 management and technology employees. Our professional employee, test equipment and QC process can guarantee our quality is satisfied.



► SGB5-40P系列高压直流断路器

SGB5-40P Series High Voltage DC MCB



► 特点

CHARACTERISTIC



无极性,双向保护
Non-polar, bidirectional protection



体积小
Compact Size



短路保护
Short Circuit Protection



过载保护
Overload Protection



阻燃材料
Flame Retardant Material



分断高
High Breaking Capacity



飞弧短
Short Arc



多种接线
Multiple wiring options



附件齐全
Complete accessories

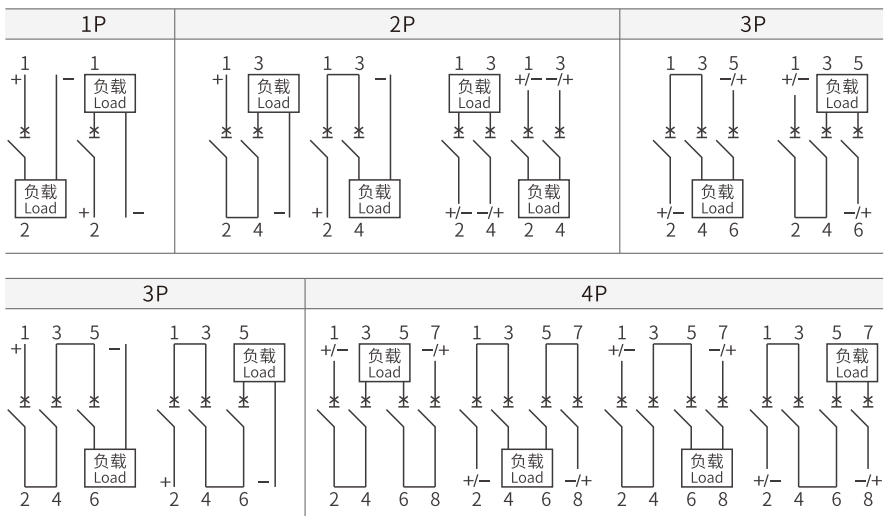
► 型号规格说明

MODEL MEANING

SG	B	5-40	P/C	40	额定电流	Rated Current
					瞬时类型	Instantaneous Type
					光伏	Photovoltaic
					壳架电流	Frame Current
					设计序号	Design Serial Number
					微断	Miniature Circuit Breaker
					企业代号	Company Code

► 直连接线图

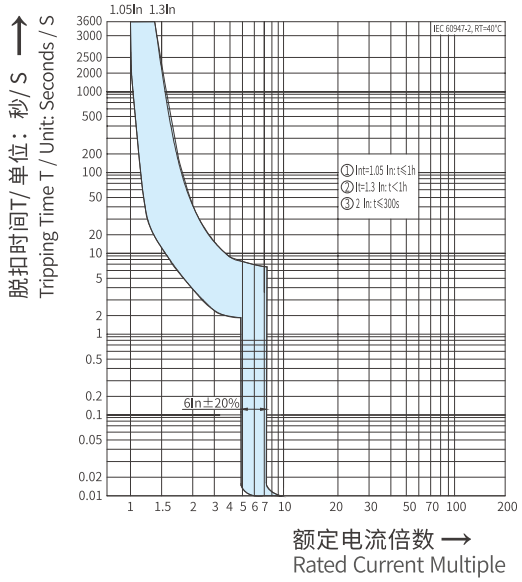
DC WIRING DIAGRAM



B 曲线(Curve) $6I_n \pm 20\%$

适用额定电流 $\leq 63A$

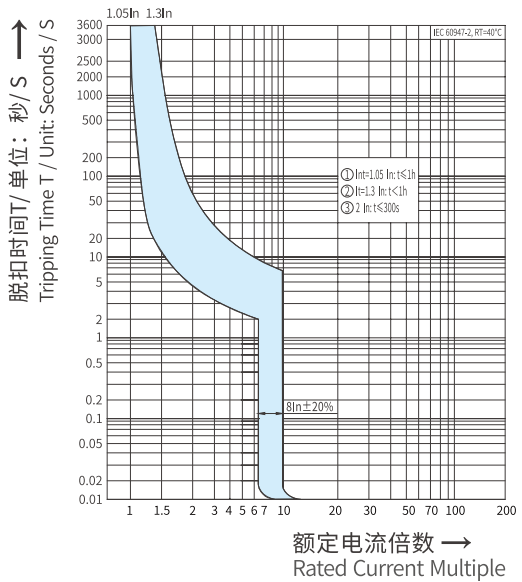
Applicable Rated Current $\leq 63A$



C 曲线(Curve) $8I_n \pm 20\%$

适用额定电流 $\leq 63A$

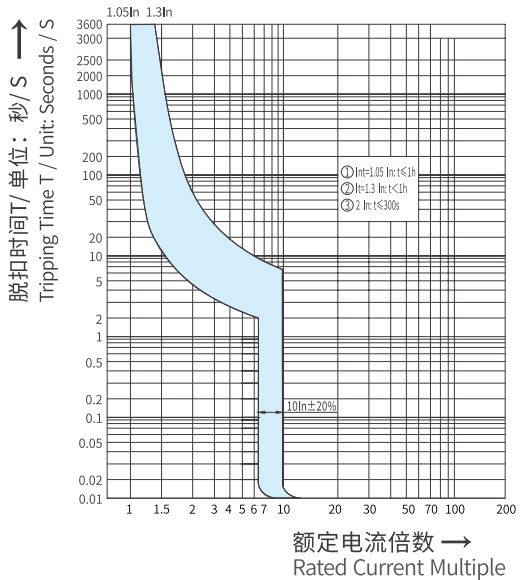
Applicable Rated Current $\leq 63A$




D 曲线(Curve) $10I_n \pm 20\%$

适用额定电流 $\leq 63A$

Applicable Rated Current $\leq 63A$



外观	Appearance				
极数	Pole	1P	2P	3P	4P
额定工作电压 Ue	Rated Working Voltage Ue	500V DC	1000V DC	1500V DC	1500V DC
壳架最大电流	Maximum frame current	40A			
额定电流In	Rated Current In	6A, 10A, 16A, 20A, 25A, 32A, 40A			
额定绝缘电压 Ui	Rated Insulation Voltage Ui	1000V DC		1500V DC	
额定冲击耐受电压 Uimp	Rated impulse withstand voltage Uimp	8kV			
脱扣特性	Tripping characteristics	B/C/D			
脱扣类型	Tripping type	热磁式 (Thermal-magnetic)			
运行分断能力 Ics	Operational Breaking Capacity Ics	1.5kA(DC)			
极限分断能力 Icu	Ultimate breaking capacity Icu	1.5kA(DC)			
电气寿命	Electrical Life				
实际平均值	Actual Average Value	平均1000次 (Average 1000 times)			
标准规定值	Standard Specified Value	300次 (Times)			
机械寿命	Mechanical Life				
实际平均值	Actual Average Value	≥15000次 (Times)			
标准规定值	Standard Specified Value	9700次 (Times)			
过电压等级	Overvoltage category	III			
污染等级	Pollution degree	3			
防护等级	Protection Level	IP40; Terminal IP20			
抗湿热性	Moisture and heat resistance	Category 2			
相对湿度	Relative Humidity	≤95%			
抗震动	Vibration Resistance	According to IEC60068-2-6			
抗机械冲击参数	Mechanical Impact Resistance Parameters	According to IEC60068-2-27			
接线能力	Wiring Capacity	2.5~35mm ²			
接线扭矩	Wiring Torque	3.0Nm			
使用环境温度	Operating Ambient Temperature	-30°C~+70°C			
存储环境温度	Storage Ambient Temperature	-40°C~+85°C			
安装方式	Installation Method	DIN35			
海拔	Altitude	≤2000m			
重量	Weight	0.13kg/极(Pole)			
尺寸 Dimension	长度 Length	108mm			
	宽度 Width	18mm	36mm	54mm	72mm
	高度 Height	Max 78mm			
包装 Package	个/盒 Pcs / Box	12	6	4	3
	盒/箱 Box / Carton	10			
	箱/托 Carton / Pallet	80			
存放	Storage	<p>产品应存放在有通风处的仓库中。相对湿度不应超过80%，以及环境温度在-40°C至+85°C之间，另外不应该有酸性，碱性和腐蚀性气体。</p> <p>The product should be stored in a well-ventilated warehouse, with relative humidity not exceeding 80%, and the ambient temperature should be between -40°C and +85°C. Additionally, there should be no acidic, alkaline, or corrosive gases present.</p>			

分励脱扣器MX	MX auxiliary release device	
额定控制电压Us	Rated Control Voltage Us	DC:24~48V AC:110~230V
最大脱扣时间	Maximum Tripping Time	< 10ms
线圈电阻	Coil Resistance	5Ω
限电流	Limit current	≥1.6A
机械寿命	Mechanical Life	10000次 (times)
电气寿命	Electrical Life	4000次 (times)
接线扭矩	Wiring torque	0.8 N·m
接线能力	Wiring capability	1.0mm ² 硬线 (Hard wire) 1.0mm ² 软线,带线端子 (Soft wire with terminal lugs)
工作温度范围	Operating Temperature Range	-30°C~+70°C
环境条件	Environmental conditions	应没有引起爆炸危险的介质,也没有腐蚀和破坏绝缘的有害气体和导电尘埃 There should be no explosive hazardous substances, and no harmful gases or conductive dust that can corrode or damage insulation
拼装位置	Assembly position	断路器的左侧 To the left side of the circuit breaker
安装条件	Installation conditions	DIN 35mm标准导轨安装 DIN 35mm standard rail mounting
辅助触点OF	Auxiliary contact OF	
触头分断能力	Contact breaking capacity	AC13: Ie=3A; Ue=250V AC15: Ie=2A; Ue=250V DC12: Ie=0.5A; Ue=110V
最小运行电压	Minimum Operating Voltage	5V
运行最小电流	Minimum Operating Current	10mA
额定绝缘电压	Rated Insulation Voltage	500V
额定限制短路电流Ik	Rated limited short-circuit current Ik	1000A
约定发热电流Ith	Agreed heating current Ith	4A
机械寿命	Mechanical Life	10000次 (times)
电气寿命	Electrical Life	4000次 (times)
接线扭矩	Wiring torque	0.8 N·m
接线能力	Wiring capability	1.0mm ²
触头数量	Number of contacts	一常开,一常闭 1 normally open, 1 normally closed
工作温度范围	Operating Temperature Range	-30°C~+70°C
环境条件	Environmental conditions	应没有引起爆炸危险的介质,也没有腐蚀和破坏绝缘的有害气体和导电尘埃 There should be no explosive hazardous substances, and no harmful gases or conductive dust that can corrode or damage insulation
拼装位置	Assembly position	断路器的左侧 To the left side of the circuit breaker
安装条件	Installation conditions	DIN 35mm标准导轨安装 DIN 35mm standard rail mounting

▣ 降容系数

DERATING FACTOR

温度降容系数表 Temperature Derating Factor Table

温度	Temperature	-30°C	-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C
额定工作电流系数	Rated Operating Current Coefficient	1.279	1.261	1.242	1.223	1.204	1.182	1.161	1.143	1.127	1.103

温度	Temperature	20°C	25°C	30°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C
额定工作电流系数	Rated Operating Current Coefficient	1.079	1.063	1.047	1	0.984	0.968	0.952	0.922	0.904	0.891

海拔降容系数表 Altitude derating factor table

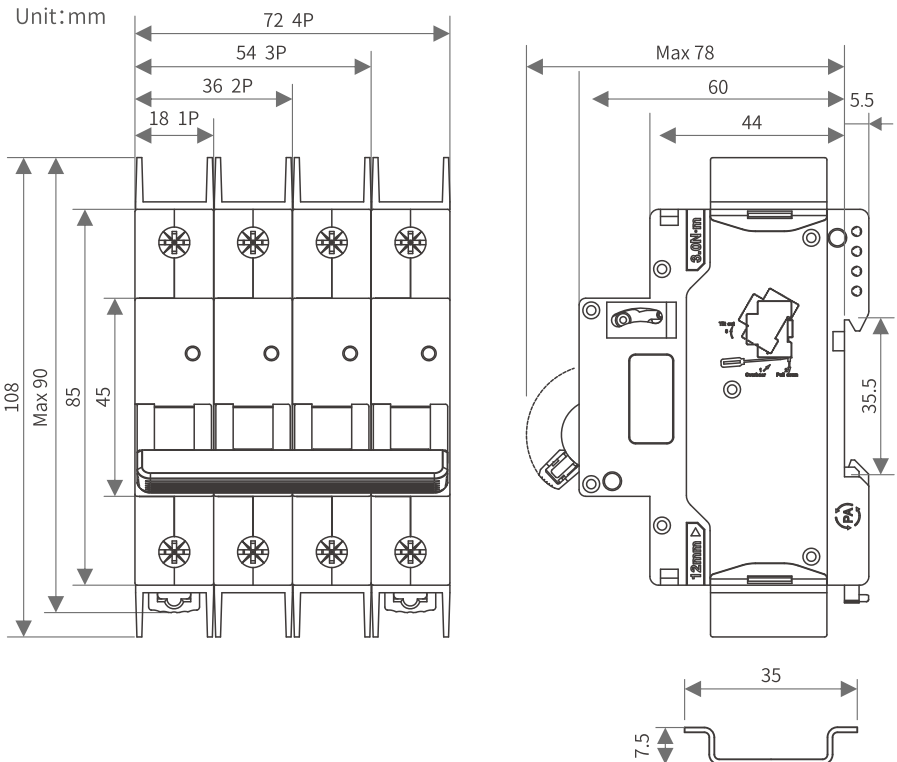
海拔高度m	Altitude /m	2000	3000	4000	5000
额定工作电流系数	Rated working current coefficient	1	0.96	0.91	0.86
额定工作电压系数	Rated operating voltage coefficient	1	1	1	1
额定工频耐压系数	Rated power frequency withstand voltage coefficient	1	0.9	0.82	0.71
额定冲击耐受电压系数	Rated impulse withstand voltage coefficient	1	0.9	0.82	0.71
额定极限短路分断能力和电寿命系数	Rated limit short-circuit segment capacity and electrical life coefficient	1	0.82	0.7	0.6

微断并排安装降容系数表 Derating factor table for side-by-side installation of MCBs

微断数量	No. of MCB	1	2~3	4~5	6~8	9~10
$I_n \leq 25A$ 系数	$I_n \leq 25A$ Coefficient	1	0.96	0.9	0.8	0.7
$32A \leq I_n \leq 63A$ 系数	$32A \leq I_n \leq 63A$ Coefficient	1	0.92	0.8	0.7	0.6

▣ 外形及安装尺寸

APPEARANCE AND INSTALLATION DIMENSIONS



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