



Antong electric

XGN□-12

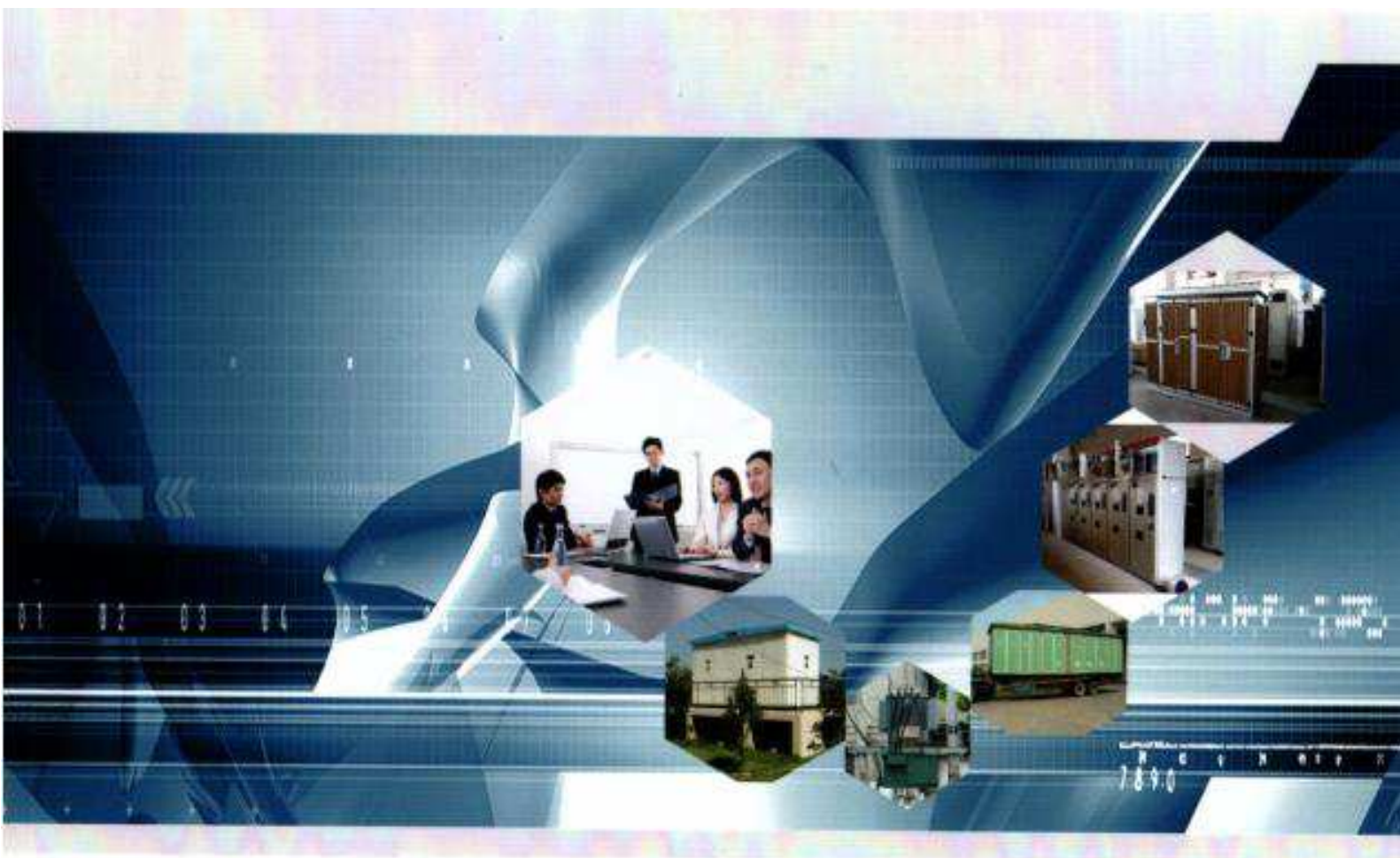
箱型固定式环网高压开关设备 (SF6)

产品技术选型样册

XGN□-12

Box-type fixed ring high -voltage switchgear(sf6)

Product technology selection guide



宁波安通电气科技有限公司

Ningbo Antong Electric Technology Company

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Business Philosophy and Corporate Purposes

Uphold the Outlook of Scientific Development and Ensure Perfect Quality

Quality first customer first



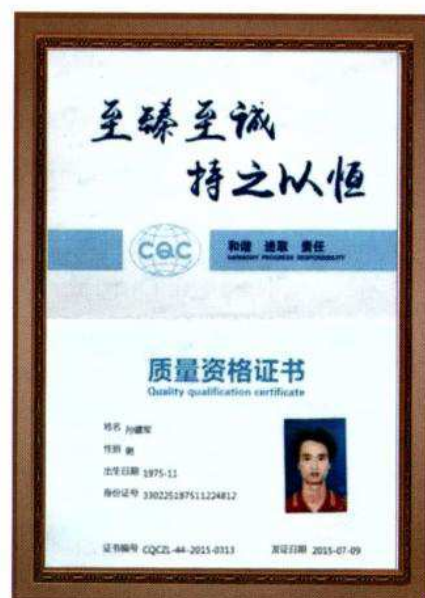
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Typical Qualification Documents



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中国认可
国际互认
检测
TESTING
CNAS L0116



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检测报告

TEST REPORT

报告编号	1813336016
REPORT NO	
产品名称	智能型高压双电源自动切换装置
NAME/SAMPLE	
型号规格	GZQNAT3-12/630-20
MODEL	
委托单位	宁波安通电气科技有限公司
CUSTOMER	
生产单位	宁波安通电气科技有限公司
MANUFACTURER	
检测类别	委托试验
TEST CATEGORY	

国家电器安全质量监督检验中心(浙江)

STATE CENTER OF SUPERVISION TEST FOR ELECTRICAL SAFETY(ZHEJIANG)

(浙江方圆电气设备检测有限公司)

報告編號(Report No.): 1813336016

第 1 页 共 17 页(Page 1 of 17)

国家电器安全质量监督检验中心(浙江)
STATE CENTER OF SUPERVISION TEST FOR ELECTRICAL SAFETY(ZHEJIANG)

检测报告

TEST REPORT

样品名称 Name of Sample	智能型高压双电源 自动切换装置		检测类别 Test Category	委托试验
型号规格 Model 等级 Grade	GZQNAT3-12/630-20 /		商标 Trademark	/
额定电流 Rated current	630A		额定电压 Rated Voltage	12kV
技术参数 Technical parameter	防护等级: IP3X 主回路短时耐受电流: 20kA/2s		频率 Frequency	50Hz
生产日期 Date of Manufacture	2017年10月		批号或编号 Serial No.	GZ201710001 GZ201710002 GZ201710003
委托单位(客户) 名称 Customer 地址 Address	宁波安通电气科技有限公司 浙江省泰山县 城东工业园五盘路22号		受检单位 Inspected Entity	/
抽样者 Sampling Organization	/		抽样基数 Number of Samples	/
抽样位置 Sample Location	/		抽样数量 Number of Sample(s) for Inspection	/
抽样日期 Sampling Date	/		到样数量 Receiving Number of Sample(s)	1套3台
送样者 Sample(s) Deliverer	宁波安通电气科技有限公司		到样日期 Receiving Date of Sample(s)	2018年04月08日
检测依据 Test Requirements	GB/T 3906-2006 3.6kV~40.5kV 交流金属封闭开关设备和控制设备 Q/0AT.S21.GZ3-JT-2017《智能型高压双电源自动切换装置技术条件》			
样品描述、状态 Description and Condition of Sample(s)	样品由委托单位送样, 外观完好, 适用检测			
检测日期 Test Date	2018年04月11日 至 2018年04月20日		检测地点 Test location	嘉兴市广亨路400号
检测结论 Test Summary	依据 GB/T 3906-2006 3.6kV~40.5kV 交流金属封闭开关设备和控制设备 9.2.4 Q/0AT.S21.GZ3-JT-2017《智能型高压双电源自动切换装置技术条件》, 对所送样品进行检测, 所检项目符合标准要求。			
备注 Remarks	 (盖章) Test Seal 批准日期: 2018年04月24日 Date of Approval			

批准:

Approved

审核

Verified by

编 者

Compos



批准日期: 2018 年 04 月 24 日
Date of Approval: 2018 年 04 月 24 日

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XGN □ -12 型箱型固定式环网高压开关设备 (SF6)

XGN □ -12 Box-type
Fixed Ring High-voltage Switchgear (SF6)



◆1 概述 Overview

XGN□-12型箱型固定式环网高压开关设备（以下简称SF6环网柜）是额定电压为12kV，额定频率50Hz的交流高压成套电器装置。适用于厂矿、住宅小区、高层建筑、学校、公园等场所的配电系统，作为接受和分配电能之用。可用于环网供电和终端供电。也可作为箱式变电站的高压开关设备之用。

The XGN □ -12 Box-type Fixed Ring High-voltage Switchgear (hereinafter referred to as "SF6 ring-main cabinet") is an AC complete set of high voltage electrical equipment with a rated voltage of 12kV and a rated frequency of 50Hz. It is suitable for the power distribution systems of factories and mines, residential quarters, high-rise buildings, schools, parks, etc., used as the acceptor and distributor to control. It can be used for ring-main supply and terminal power supply, and also can be used as high-voltage switchgear for box-type substation.

◆2 型号说明 Model Description

SF6环网柜的型号含义如下表示：The model meaning of the 6 ring-main cabinet are as follows:



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3.2 特点 Characteristics

a) 柜体骨架采用大型模具一次压制并经数控折弯成型及采用进口不锈钢铆钉拉铆作为连接件的全组装搭接式结构，强度高、外形美观，防护等级达到IP2X或以上。且整体体积小、重量轻，轻巧美观，可任意组合安装、便于无限扩展延伸，具有很强的系列性和通用性。

The skeleton of the cabinet is a full assembling lapped structure made by a large die mold through a single-press process, shaped by NC bending, and connected by imported stainless steel rivets. It features high strength and beautiful appearance, and has a protection grade of IP2X or above. The cabinet is small in size, light in weight, and elegant in appearance. It can be easily assembled and installed, and unlimitedly expanded and extended. Its high versatility make it be used in many product series.

b) 采用SF6气体绝缘和灭弧的主开关，绝缘、灭弧性能稳定可靠；主开关的外壳采用环氧树脂浇注而成，增强了绝缘和密封性能的可靠性；主开关的触头座及机构采用三工位机理，自然联锁，只可在“闭合”、“接地”或“断开”三种位置之一的联锁装置，杜绝了人为误操作发生，操作机构的操动方式既可手动也可加装电动操作机构，并具有远动遥控功能；操作机构还与高压电缆室安装门联锁，防止开关在未接地状态下开启安装柜门，确保人员安全。主开关还可根据用户要求，可加装压力表，监测压力状况。

Thanks to SF6 gas insulation and arc extinguishing, the main switch is stable and reliable in insulation and arc suppression performance. The case of the main switch is made of epoxy resin, which enhances the reliability of the insulation or sealing performance. The contact seat and mechanism of the main switch adopts the three-operating position mechanism, which can interlock naturally, and only interlock in one of the three positions, that is, "closed", "ground" and "open", thus preventing mal-operation due to human factors; the operating mechanism can be manually operated or can be installed with an electric operating mechanism, and has a remote control function. The operating mechanism is interlocked with the installation door of the high-voltage cable compartment, therefore preventing the switch to open the installation door when it has not grounded, thus ensuring the safety of personnel. According to user requirements, the main switch can also be installed with a pressure gauge, which can monitor the pressure.

c) 柜内布置：上部为母线室和仪表室，仪表室在母线室的前部，中部为主开关室，把母线室与电缆室充分隔开，确保在母线室带电状态下安装维修时的安全和防止突发事故扩大蔓延；且主开关有后置安全隔膜，在极端故障状态下，高压气体冲破安全隔膜喷向柜后确保操作人员安全。

Inside layout of the cabinet: The upper part of the cabinet is the bus compartment and the instrument compartment. The instrument compartment is in the front of the bus compartment. The middle part is the main switch compartment, which separates the bus compartment and the cable compartment, to ensure the safety installation or maintenance in the bus compartment which is in an energized state and to prevent the spread and expansion of sudden accident. The main switch also has a rear security diaphragm; in extreme conditions, high pressure gas will break through the safety diaphragm and go into the cabinet, ensuring the safety of the operator.

d) 操作面板配置模拟一次回路，指示清楚明了，带电显示器闪烁指示带电部位。

The operation panel is configured to simulate the primary circuit. It indicates simply and clearly: the live display unit flickers to indicate the live part.

e) 主开关的隔离断口距离大，12kV大于150mm，可确保对设备的检修、更换熔断器的工作者人身安全；

The isolation fracture of the main switch is wide; for 12kV, the isolation fracture is greater than 150mm, thus ensuring the safety of the operator which conducts maintenance to equipment or replaces the fuse;

f) 绝缘性能好，相间、相对地空气距离不小于125mm；外绝缘爬电距离不小于230mm。

It has good insulation performance. The air distance of phase to phase, phase to ground is not less than 125mm; the external insulation creepage distance is not less than 230mm.

g) 设有完善可靠的机械、电气联锁装置，完全达到“五防”功能，确保人身安全。

It has a sound and reliable mechanical and electrical interlock device. It fully meets the "five preventions" function to ensure personal safety.

h) 进出线：对于电缆进出线柜，柜内装有可拆装的活动底板，对柜顶进出线，根据用户要求，可在柜顶加装母线通道。

Inlet-outlet line: For the cable inlet-outlet line cabinet, the cabinet is equipped with removable floor; for the inlet-outlet line on the top of the cabinet, a busbar channel can be installed at the top of the cabinet according to user requirements.

i) 设计制造了一套简易、实用的机械手，解决了更换熔断器难的问题,大大提高了操作安全性。

A simple, practical manipulator is designed and manufactured to address the challenge of replacing the fuse, greatly improving the operational safety.

j) 安装方式可以是背靠背组成的双重排列或靠墙安装，以节省配电房的空间，减少了占地面积。

As for installation method, it can be sat back-to-back to form a double arrangement and wall installation, thus improving the safety and flexibility of the switchgear, saving more space.

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k) 在电缆室底部装有加热器，并由智能型凝露控制器控制，确保本设备能在高湿度或温度变化较大的气候环境中使用和防止腐蚀发生。

At the bottom of the cable compartment, a heater is equipped with and controlled by an intelligent condensing controller to ensure that the equipment can be used and protected against corrosion in climatic environment of high humidity or temperature changes.

l) 电缆室内单独设立独立的接地铜排，此铜排与柜体的敷铝锌板外壳相拼联，并能贯穿相邻各柜，使得整个柜体都处在良好接地状态之中，确保运行操作人员触及柜体之安全。

There are separate grounding coppers set up in the cable compartment. These coppers is put together with the aluminum-zinc-plate case, and can run through the adjacent cabinets, so that the entire cabinet are in a good grounding status, to ensure that the operator can touch the cabinet safely.

◆4 技术参数 Technical Parameters

主要技术参数见下表2

The main technical parameters are shown in Table 2 below

表2 Table 2

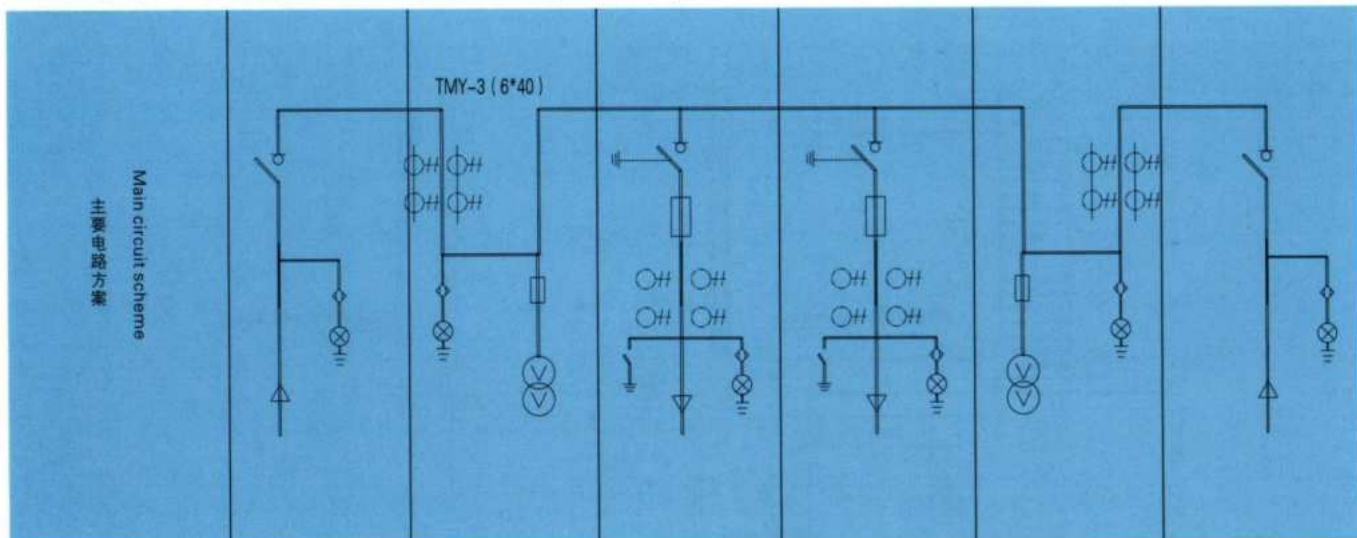
序号 Serial No.	项目 Item			单位 Unit	负荷开关柜 Load switchgear	组合电器柜 Combined electrical cabinet
1	额定电压 Rated voltage			kV	12	12
2	额定频率 Rated frequency			Hz	50/60	
3	额定绝缘水平 Rated insulation level	1min工频耐受电压（有效值） One-minute power frequency withstand voltage (RMS)	相间、相对地 Phase to phase, phase to ground	kV	42	42
			隔离断口 Isolated fracture		48	48
		雷电冲击耐受电压(峰值) Lightning impulse withstand voltage (Peak)	相间、相对地 Phase to phase, phase to ground		75	75
			隔离断口 Isolated fracture		85	85
4	主母线额定电流 Rated current of main bus			A	630	125
5	额定短时耐受电流 Rated short time withstand current			kA/4s	20	/
6	额定峰值耐受电流 Rated peak withstand current			kA	50	/
7	额定转移电流 Rated transfer current			A	/	1800
8	额定短路关合电流（峰值） Rated short-circuit closing current (peak)			kA	50	/
9	额定短路开断电流（有效值） Rated short-circuit breaking current (RMS)			kA	/	31.5
10	额定有功负载开断电流 Rated active load breaking current			A	630	/
11	接地回路动稳定电流 Ground loop dynamic stability current			kA	50	
12	接地回路热稳定电流 Ground loop thermal stability current			kA/2s	20	
13	SF6 额定充气压力 Sf6 rated inflation pressure			Mpa	0.04 ~ 0.05	
14	SF6气体年漏气率 Sf6 gas annual leakage rate			年 year	≤ 0.5	
15	机械寿命 Mechanical life			次 Times	2000	
16	辅助回路1min工频耐压 Auxiliary loop 1min power frequency withstand voltage			kV	2	
	电动操作机构工作电压 Operating voltage of electric operating mechanism			V	交直流 AC and DC	
17	外壳防护等级 Case protection grade				IP2X 或以上 IP2X or above	

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◆6 典型的一次线路方案图实例 Example of a Typical Primary Circuit Diagram



编号 No.		A1		A2		A3		A4		A5		A6	
用途 Usage		进线 Inlet line		计量 Metering		出线 Outlet line		出线 Outlet line		计量 Metering		进线 Inlet line	
方案号 Scheme No.		01		13		06		06		19		01	
外形尺寸 Dimension (mm)		500*860*1600		750*860*1600		650*860*1600		650*860*1600		750*860*1600		500*860*1600	
主要电气设备	名称 Name	型号、规格 Model, specifications	数量 Quantity	型号、规格 Model, specifications	数量 Quantity	型号、规格 Model, specifications	数量 Quantity	型号、规格 Model, specifications	数量 Quantity	型号、规格 Model, specifications	数量 Quantity	型号、规格 Model, specifications	数量 Quantity
	1 负荷开关 Load switch	FLRNC-12/7630-10	1			FLRNC-120/T125-31.5	1	FLRNC-120/T125-31.5	1			FLRNC-12/7630-20	1
	2 隔离开关 Isolating switch												
	3 熔断器 Fuse			XRNP-12/1A	3	XRNT-12/40A	3	XRNT-12/40A	3	XRNP-12/1A	3		
	4 电压互感器 Voltage transformer			JDZ-10 0.2S	2					JDZ-10 0.2S	2		
	5 电流互感器 Current transformer			LZX-10 100/5 0.2级	2	LZX-10 50/5 0.5级	2	LZX-10 50/5 0.5级	2	LZX-10 100/5 0.2级	2		
	6 传感器 Sensor	DXN-10	3	DXN-10	3	DXN-10	3	DXN-10	3	DXN-10	3	DXN-10	3
	7 显示器 Display	GSN-10Q	1	GSN-10T	1	GSN-10T	1	GSN-10T	1	GSN-20T	1	GSN-10Q	1
备注 Remarks													

要求: 1 每柜装凝露控制装置。

- 2 本装置采用手动操作机构。
- 3 两进线柜实行机械联锁装置。
- 4 其它按标准要求。

Requirements:

1. Each cabinet is equipped with condensation equipment
2. The device is equipped with electric operating mechanism
3. The two-inlet-line cabinet is equipped with mechanical interlock device
4. Others are according to the standard requirements





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◆7 订货需知 Ordering Instructions

订货方应向本公司提供以下资料数据：

The buyer shall provide the following information to our company:

- a) 产品名称、型号、规格、方案（或一次接线图）号，数量及交货期限。

The product name, model, specification, scheme (or primary connection diagram) number, quantity and delivery term.

- b) 柜内所装主电器元件的名称、型号、规格和数量。

the name, type, specification and quantity of the main electrical components installed in the cabinet.

- c) 主母线、支母线的材质、规格，否则按制造厂规定供货。

The material, specifications of main bus and branch bus, or otherwise provided by the manufacturer.

- d) 柜的排列图及平面布置图。

the arrangement and layout plan of the cabinet.

- e) 二次回路接线原理图（主要提供继电保护要求）、端子排列图，如无则按本公司规定供货。

The secondary circuit wiring diagram (mainly to provide relay protection requirements), terminal arrangement diagram, or otherwise provided by the manufacturer.

- f) 需要母线桥时需提供跨距和主要尺寸。

Span and main dimensions when bus bridges are needed.

- g) 需要其它或超出附件供应时应提出种类和数量。

The type and quantity should be presented when other supplies are required or beyond the supply of accessories.

- h) 柜壳表面漆色（否则按公司标准色供货）。

the paint color of the cabinet surface (otherwise as the standard color provided by the manufacturer).

- i) 与产品正常使用不符等的其它特殊要求。

Other special requirements that do not match the normal use of the product.

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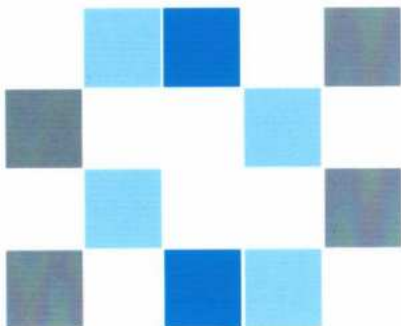


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Due to the continuous improvement of the standard, parameters and design, the sample book or product structure is subject to change without notice. All data are not confirmed. Please ask for confirmation of the information and product structure in the sample book at any time.

For detailed installation & operation instructions for each product, please refer to the factory data provided with the goods or request them from the company.



宁波安通电气科技有限公司

Ningbo Antong Electric Technology Company

浙江省象山县城东工业园玉盘路22号

Zhejiang Province Xiangshan County East Industrial Park Yu
Tong Road on the 22nd

电话(Tel): 0574-65723777

传真(Fax): 0574-89522257

邮箱(E-mail): ningboanton@163.com

邮政编码(P · C): 315700