



## Intelligent Circuit Breaker

## 物联网智能小型断路器



嘉兴弘博电气有限公司成立于2009年，位于浙江省嘉兴市城北路1761号，占地面积40亩，建筑面积30000m<sup>2</sup>，是一家集研发、生产及销售智能小型断路器标准硬件（元器件）专业制造商。

公司秉承安全，节能，智能，实用的宗旨，着眼于智慧城市，智能家居，智能电网以及安全用电，依托多年积淀的丰富制造经验和技術实力，以及多项相关发明专利，致力并服务于互联网应用，物联网，大数据等领域。公司主要生产智能小型断路器、智能漏电断路器、智能配电箱以及重合闸断路器智能元器件。

公司本着“十年磨一剑，用心做精品”的工匠精神，专注于智能断路器的研发、设计和制造。公司HiB全系列智能断路器产品，处于行业领先水平，在行业内享有盛誉。竭诚欢迎软件应用公司合作，亦可为广大企业提供OEM和ODM委托生产服务。

JIAXING HOUP ELECTRIC CO.,LTD was founded in 2009, located at No.1761 CHENGBEI RD, JIAXING, CHINA, with construction area of 30,000 m<sup>2</sup>. It is professional manufacturer on standard components of smart electrics, specializings in R&D, Production and Sale.

With the purpose of SAFETY, EFFICIENCE, SMART and PRACTICAL, Houp Electric aims to serving the Internet Applications, IoT and Big Data in the area of the Smart City, the Smart Home, the Smart Grid and Electric Safety. Depending on patents for invention, and years of experience in smart products and low-voltage devices, we are active in multiple smart goods categories in Smart Circuit Breaker, Smart RCBO, Smart Distribution Box and Auto-reclose Devices.

Focusing on invention,development and manufacturing with the sprit of “grinding the capability, qualifying the production”, HiB series Smart Circuit Breakers is in first-class in the industry with good reputation. Sincerely welcome to cooperation with software application companies, and also ODM/OEM is available for us.

### 发明专利 PATENT



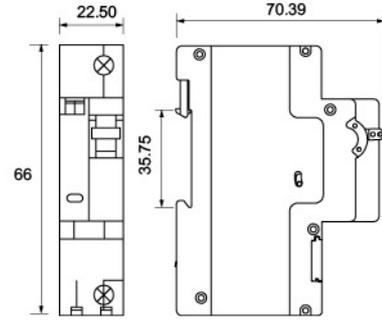
### 车间厂房 PRODUCTION





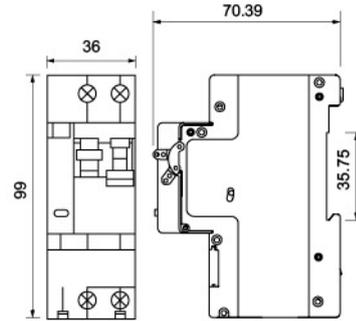
## HiB301-40 智能小型断路器 (1P) SMART CRICUIT BREAKER

额定电压 Rated Voltage: 230V AC  
 额定电流 Rated Current: 16A,20A,32A,40A  
 瞬时脱扣特性 Tripping Characteristic: B,C  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC60898,GB10963  
 通讯协议 Protocol: RS485,Modbus



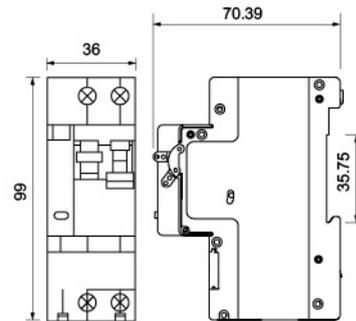
## HiB302-63 智能小型断路器 (1P+N) SMART CRICUIT BREAKER

额定电压 Rated Voltage: 230V AC  
 额定电流 Rated Current: 16A,20A,32A,40A,50A,63A  
 瞬时脱扣特性 Tripping Characteristic: B,C,D  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC60898,GB10963  
 通讯协议 Protocol: RS485,Modbus



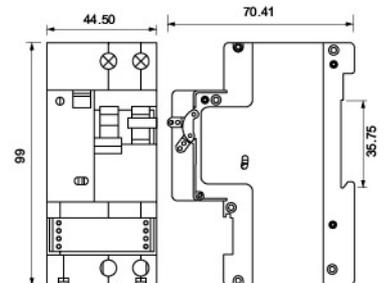
## HiB302L-63 智能小型断路器带漏电保护 (1P+N) SMART CRICUIT BREAKER(RCBO)

额定电压 Rated Voltage: 230V AC  
 额定电流 Rated Current: 16A,20A,32A,40A,50A,63A  
 瞬时脱扣特性 Tripping Characteristic: B,C,D  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC61009-1,GB16917.1  
 漏电保护值 Earth-leakage Value: 30mA/50mA/100mA  
 通讯协议 Protocol: RS485,Modbus



## HiB303L-63 智能小型断路器带漏电保护 (1P+N) (独立通讯) SMART CRICUIT BREAKER(RCBO)

额定电压 Rated Voltage: 230V AC  
 额定电流 Rated Current: 16A,20A,32A,40A,50A,63A  
 瞬时脱扣特性 Tripping Characteristic: B,C,D  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC61009-1,GB16917.1  
 漏电保护值 Earth-leakage Value: 30mA/50mA/100mA  
 通讯协议 Protocol: RS485,TCP/IP,ZIGBEE,WIFI,GPRS,NB-IOT



# HiB300 系列



HiB304-100

## ■ HiB304-100 智能小型断路器 (4P) (独立通讯) SMART CRICUIT BREAKER

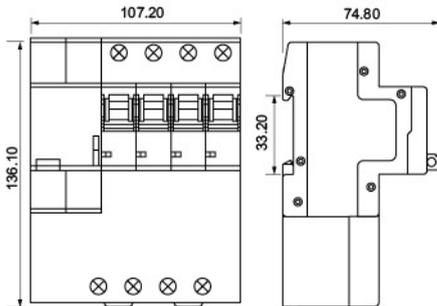
额定电压 Rated Voltage: 230V / 400V AC  
 额定电流 Rated Current: 40A,50A,63A,80A,100A  
 瞬时脱扣特性 Tripping Characteristic: B,C,D  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC60898,GB10963  
 通讯协议 Protocol: RS485,TCP/IP,ZIGBEE,WIFI,GPRS,NB-IOT



HiB304L-100

## ■ HiB304L-100 智能小型断路器带漏电保护 (4P) (独立通讯) SMART CRICUIT BREAKER(RCBO)

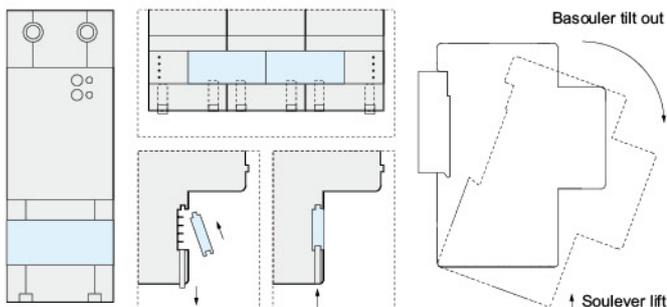
额定电压 Rated Voltage: 230V / 400V AC  
 额定电流 Rated Current: 40A,50A,63A,80A,100A  
 瞬时脱扣特性 Tripping Characteristic: B,C,D  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC61009-1,GB16917.1  
 漏电保护值 Earth-leakage Value: 30mA,50mA,100mA,  
 300mA,500mA,1000mA  
 通讯协议 Protocol: RS485,TCP/IP,ZIGBEE,WIFI,GPRS,NB-IOT



## ■ HiB304J-100 智能小型断路器带漏电报警 (4P) (独立通讯) SMART CRICUIT BREAKER(RCBO)

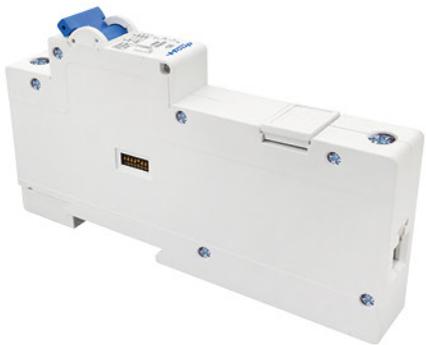
额定电压 Rated Voltage: 230V / 400V AC  
 额定电流 Rated Current: 40A,50A,63A,80A,100A  
 瞬时脱扣特性 Tripping Characteristic: B,C,D  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 技术标准 Standard: IEC61009-1,GB16917.1  
 漏电报警值 Earth-leakage Alarm Value: 30mA,50mA,100mA,  
 300mA,500mA,1000mA  
 通讯协议 Protocol: RS485,TCP/IP,ZIGBEE,WIFI,GPRS,NB-IOT

### 通讯口连接示意图 Demonstration



## ■ HW300 智能管理器 SMART MASTER

供电电压 Supply Power: 12V DC  
 运行温度 Operating Temperature: -10~70°C  
 通讯方式 Protocol: 2G/4G,TCP/IP,RS485,WIFI,NB-L0T,ZIGBEE  
 连接方式 Connection: RS485,Modbus  
 最大连接数量 Max. Connection: 36



## HiB201 智能小型断路器 SMART CRICUIT BREAKER

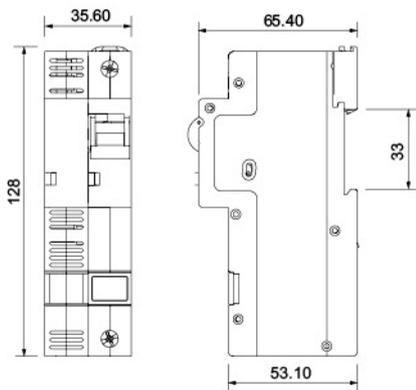
额定电压 Rated Voltage: 230V AC  
 额定电流 Rated Current: 16A,20A,25A,32A,40A,50A,63A  
 瞬时脱扣特性 Tripping Characteristic: B,C,  
 分断能力 Breaking Capacity: 6kA  
 机械寿命 Mechanical Durability: 10,000 次  
 继电器机械寿命 Perform Control: 50,000 次  
 技术标准 Standard: IEC60898,GB10963,JB/T10923,Q/HL1410  
 通讯协议 Protocol: RS485,Modbus  
 计量精度 Accuracy: 2%



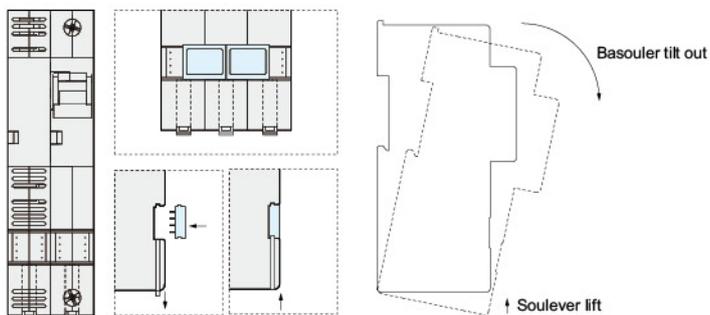
## HW200 智能管理器 SMART MASTER

供电电压 Supply Power: 24V DC  
 运行温度 Operating Temperature: -10~70℃  
 通讯协议 Protocol: TCP/IP,RS485,KNX,NB-IOT,WiFi, Zigbee  
 连接方式 Connection: RS485,Modbus  
 最大连接数量 Max. Connection: 64

### 尺寸图 Size



### 通讯口连接示意图 Demonstration



## 产品功能 Function List

	功能项目 FUNCTION	功能描述 DESCRIPTION	201	301	302	303	304	
安全保护 SAFETY	本地手动分合闸 Manual Switch	控制通断 ON/OFF control	✓	✓	✓	✓	✓	
	本地自动重合闸功能 Auto-reclosing	控制通断 ON/OFF control	✓	✓	✓	✓	✓	
	远程控制分合闸 Remote-control	控制通断 ON/OFF control	✓	✓	✓	✓	✓	
	短路保护 Short-circuit Protection	符合 IEC60898 标准, 瞬时脱扣特性 B,C 和 D 型 Be up to IEC60898, Instantaneous Tripping Types-B,C,D	B/C	B/C	B/C/D	B/C/D	B/C/D	
	过载过流保护 Overload/Overcurrent protection	符合 IEC60898 标准, 有双金属片 Be up to IEC60898, Bimetallic Strip	✓	✓	✓	✓	✓	
	漏电保护 Earth-leakage Protection	符合 IEC61009 标准, 具有本地漏电手动自检功能 Up to IEC60898, Earth-leakage self-test function	✗	✗	✓	✓	✓	
	自恢复过欠电压保护 Ove/Under voltage protection	电压低于 190V 报警, 也可设定欠压报警参数; 高于 250V/430V 报警, 高于 263V/456V 断电 Uor 250V/430V or Uvu190V Alarm, and Uor 263V/456V off-power	▲	▲	▲	✓	✓	
	打火报警 Spark Alarm	记录打火次数并报警 Record spark times and alarm	✗	✓	✓	✓	✓	
	线路过温保护 Over-temperature Protection	实时监测空开和接头温度, 温升超过 70°C 报警, 90°C 断电 Real-time monitoring temperature on Circuit or Load	✓	✓	✓	✓	✓	
	缺相保护 Open-phase protection	报警提示 Automatic Alarm	✗	✗	✗	✗	✓	
	断零保护 Faulted-neutral protection	报警提示 Automatic Alarm	✗	✗	✓	✓	✓	
	三相不平衡报警提示 Three-phase Unbalance Alarm	报警提示 Automatic Alarm	✗	✗	✗	✗	✓	
物联交互 IOT	功率限定功能 Power Limitation	达到设定的功率后自动断电 Auto Power-off when exceed the limitation	✓	✓	✓	✓	✓	
	实时查询用电数据 Read Power Consumption Data	可实时查询电压、电流、用电量、漏电流数据 Data of vlotage/current/earth leakage	可查电压 / 电流 / 用电量 pollable voltage, current, consumption			✓	✓	✓
	用电故障记录 Error Recording Power Data	可存储、查询 12 个月的用电故障记录 Storage and query data in 12 months	✓	✓	✓	✓	✓	
	定时功能 Timing	自设定开关时间 Self-setting the opening time	✓	✓	✓	✓	✓	
	手机 APP 管理 APP Management	分线路记录小时、每天、每月电量, 12 个月可查 Storage and query every day's consumption in 12 months	✓	✓	✓	✓	✓	
	多功能物联网接口 Multi-function Interface	对接 TCP/IP、KNX、RS485、wifi、Zigbee、Z-Wave、NB-IOT、LoRa、2G、4G Available to TCP/IP、KNX、RS485、wifi、Zigbee、Z-Wave、NB-IOT、LoRa、2G、4G	▲	▲	▲	✓	✓	
	物联网管理平台对接 IoT management platform joint	可接入安全用电、节能管理、智慧电能管理的集中式数据统计分析平台 available to IOT.safety protect,smart electric	▲	▲	▲	✓	✓	
	本地边缘计算 Edge Computing	不依赖云端, 在断网的情况下进行本地的安全监控与操作 monitoring and control well when network outage	▲	▲	▲	✓	✓	
安装维护 Maintenance	本地机械锁死结构 Mechanical lock-in structure	故障维修排除后可本地解除 Only Restard after fault removal	✓	✓	✓	✓	✓	
	维修便利 convenient repair	产品更换维修可单独进行, 不影响其他线路 repair or replace separately without affecting other devices	✓	✓	✓	✓	✓	

▲: 可通过管理器实现 By Master



### 手机 APP 个人版 (APP Operation)

个人用户通过手机号、微信、QQ 登录  
 远程设置、查询、遥控或定时开关  
 自动完成漏电保护功能自检  
 分线路用电计量，故障实时报警等

Remoto Control,  
 Real-time Monitoring,  
 Alarm and Push,  
 Power Consumption Records,  
 Timer,  
 Power limitation,  
 Auto-trsting of Earth-leakage.

### PC 端 (PC Platform)

企业或管理员用户可通过 PC 端进行用电  
 安全监管，并利用数据分析用电情况。

Power Consumption Management,  
 Electrical Safety Supervision,  
 Device Montinoring,  
 Data Analysis.



### 家居标准电箱回路 Example For Home



漏保总开 C40	电源	WiFi 网关	厅 空调	主卧 空调	次卧 空调	厨卫 照明	厅 插座	房 照明	厅 插座	房 插座

### 楼宇办公标准电箱 Example For Building/Office

漏保总开 C40	电源	WiFi 网关	主管 办公 空调	公区 空调	展厅 空调	主管 办公 照明	公区 照明	展厅 照明	主管 办公 插座	公区 插座	展厅 插座

# 物联网智能空开应用范围

## Scope of Application

### 分布式能耗监控系统 Energy Monitoring Distribution System

照明  
Lighting

电动车充电  
Charging for Electromobile

智能办公  
Intelligent office

空调  
Air-Conditioner

### 用电安全监控系统 Energy Safety Monitoring System

漏电安全检测  
Earth-leakage  
Testings

智能配电  
Intelligent power  
distribution

电气火灾监控  
Electrical fire monitoring

### 智能控制系统 Smart Control System

视频监控  
Video surveillance

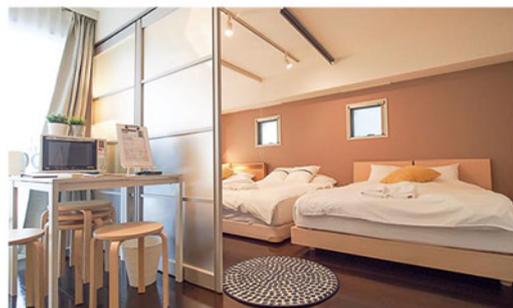
智能通风  
Intelligent ventilation

户外通讯基站  
Telecommunication station

安防报警  
Security alarm



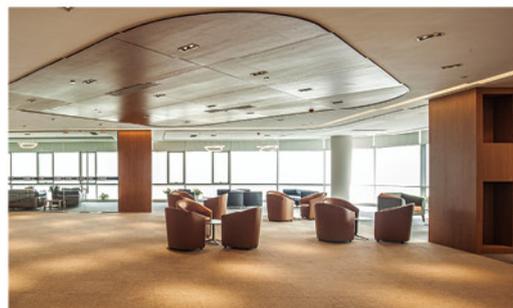
户外移动通讯基站智能电源解决方案  
Solution for Telecommunication Station Power



出租屋智慧安全配电与计量管理  
Solution for Rental Housing Electric Safety



校园宿舍智慧安全配电解决方案  
Solution for Campus Energy Management



楼宇楼层配电与住户用电计量解决方案  
Solution for Smart buildings



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