

RECEIVED 24 AUO 2000

TO \_\_\_\_\_

NO. : SP69-010926

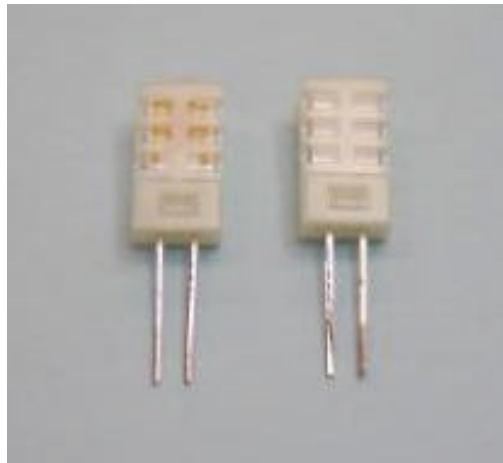
Date : SEP. 26. 2001

SUNSTAR

## HUMIDITY SENSOR

# SC0056

## SPECIFICATIONS



地址：深圳市福田区福华路福庆街鸿图大厦 1602 室

电话：0755-83376282 83376489 83376549 83758073 83600718 83338339

传真：0755-83376182 83338339 邮编：518033 联系人：雷建科 李卓文

手机：(0)13902971329 (0)13823648918 (0)13823648918 BP 机:191-8869218 (全国联网)

网址：<http://www.sunstare.com/>

E-MAIL：szsunstr@public.szptt.net.cn

北京:(0)13501189838 191-8867148 西安:(0)13609291696 191-8454356 上海:(0)13701955389 191-3789221

## 1、 Scope of application

This specifications are applicable to the humidity sensor SC0056.

## 2、 Type.

SC0056 Humidity sensor HPR-NQ-N3 with the filter

## 3、 Configuration of the humidity sensor unit is shown on the attached drawing Sp69-910926-1(SC0056).

## 4、 Electrical characteristics

(4-1) Rated voltage: AC 1.4V (Naximum peak value. Sine wave)

(4-2) Rated power : AC0.2mw (naximum peak value. Sine wave)

(4-3) Operating temperature range : 0 ~ 60

(4-4) Operating humidity range: 90%RH or less

(4-5) Storable tcmperature range: -20 ~ 85

(4-6) Storable humidity range: 95%RH or less

(4-7) Standard characteristic: 31k (at 25 60%RH)

See Attached Drawing SP64-87064-1

(4-8) Humidity Accuracy:  $\pm 5\%$ RH(at 25 60%RH)

(4-9) Humdity response characteristic:winthin 1 minutes

(time constant when RLL changes from 40 to 80%RH in the air flow at 2.5m/s)

(4-10)Temperature charocteristic:See Attached Drawing SP64-860405-4B

(4-11)Frequency characteristics:See Attached Drawing SP64860450-2B

(Note)(4-10) and (4-11) are reference values as the characteristics of a humidity sensor itself.

## 5、 Mechanical characteristics

### (5-1) Shock tesistance

Not to be abnormal in the appearance and electrical characteristics after having been naturally let to drop down 3 times at random onto a hard wooden plate from the height of 75cm.

### (5-2) Vibration resistance

Not to be abnormal in the appearance and electrical characteristics after having been vibration-tested for 2 hours each in the directions of X-Y-Z. at the frequency of 10 ~ 55llz.and amplitude of 1.5mm(10-55-10)

## 6、 Reliability

### (6-1) Heat resistance

Leave for 1000 hours in the environment of 85 and 30%RH or less.

Then, further leave for 60 minutes under the normal temperature and humidity.

Thereafter, to be within  $\pm 5\%$ RH of change in the humidity.

(6-2)Cool resistance

Leave for 1000 hours in the environment of - 25 and 70%RH or less. Then, further leave for 60 minutes under the normal temperature and humidity. Thereafter, to be within  $\pm 5\%$  RH of change in the humidity.

(6-3)humidity resistance

Leave for 1000 hours in the environment of 40 , 90%RH or less Then, further leave for 60 minutes under the normal temperature and humidity. Thereafter, to be within  $\pm 5\%$  RH or less of change in humidity.

(6-4)temperature cycle

HERE, one cycle shall be to leave for 30 minutes under 0 , continue to leave for 30 minutes while raising the temperature to 50 , leave for 30 minutes under 50 , and further leave for 30 minutes while lowering the temperature to 0 , repeat 300 such cycles, then, leave for 60 minutes under the normal temperature and humidity. Thereafter, to be within  $\pm 5\%$  RH or less of change in humidity.

(6-5)humidity cycle

Here, one cycle shall be to leave for 30 minutes under 25 , 10%RH, continue to leave for 30 minutes while raising to 90%RH, leave for 30 minutes under 90%RH. and further leave for 30 minutes while lowering to 10%RH. Repeat 300 such cycles. Then leave for 60 minutes under the normal temperature and humidity. Thereafter, to be within  $\pm 5\%$  RH of change in humidity.

7、 Remarks on using

(1)Positively don't impress DC to the humidity sensor.

(2)Avoid dewness and drenching.

(3)Use in relatively clean air. Take full care of using in the atmosphere of the below gas.

(a)Salt

(b)Nonorganic gas.....Sulfide dioxide chlorine ammonium

(c)Organic gas.....Alcohols. Glycols, aldehydes, etc.

8、 Change in specifications content

Whenever there arises any necessity for change in or addition to the content of these specifications. It shall be decided upon through mutual consultation.

**DIMENSION OF HUMIDITY SENSOR (unit:mm)**

**DWG NO : SP69-9010926-1**

**TYPE: SC0056**

**1:Humidity sensor HPR-NQ-M3**

**2:Filter case fc-5 (material : ABS)**

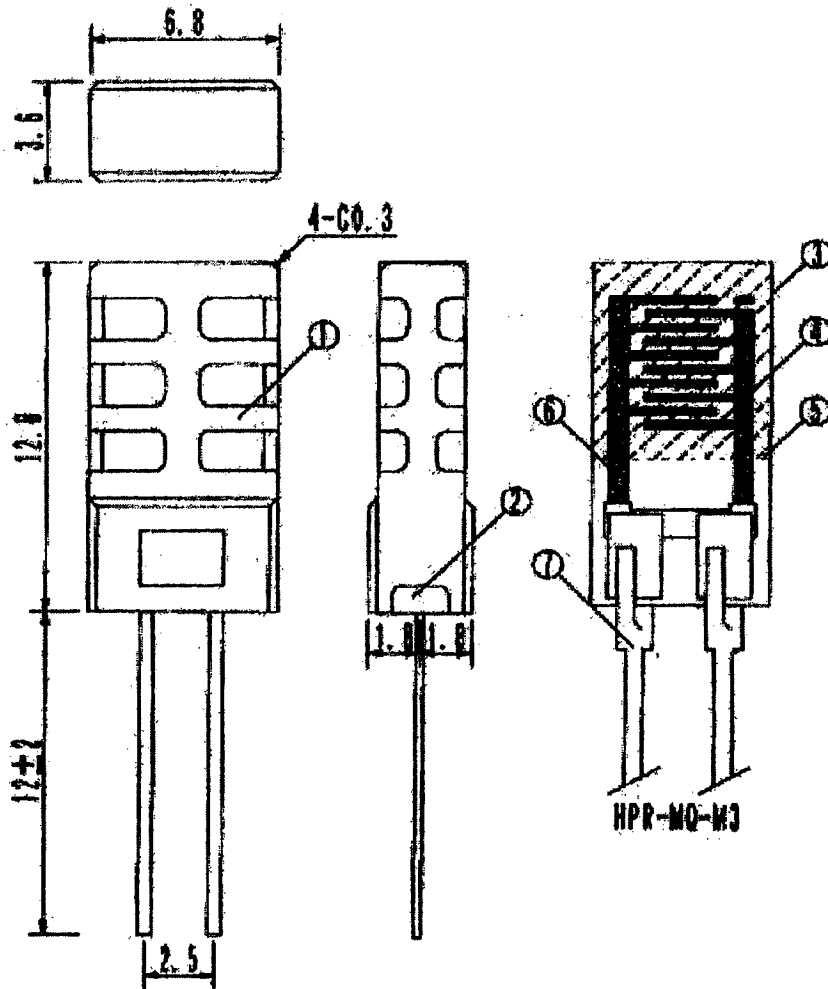
**8-3**

**PRODUCT SPECIFICATIONS**

**SC0056**

**SUNSTAR**

Figure.1 Configuration & Parts.



(UNIT: mm)

**Parts list**

No.	Parts	Remark
1	Sensor case(cover)	Material : ABS
2	Sensor case(base)	Material : ABS
3	Substrate	
4	Humidity sensitive material	
5	Over coating	
6	Gold electrode	
7	Lead frame	

# HUMIDITY SENSOR SPECIFICATION SHEET TYPE NO, SC0056

Our Humidity Sensor "SHINYEI HUMENT" is a Humidity device formed by distributing a Humidity Sensitive material onto an electrode substrate. The resistance of the device varies exponentially with variation in Relative Humidity.

### Features

- ★ Wide Humidity detecting range
- ★ Outstanding reproducibility
- ★ Rapid response
- ★ Low hysteresis
- ★ Small and light-weight

### Applications

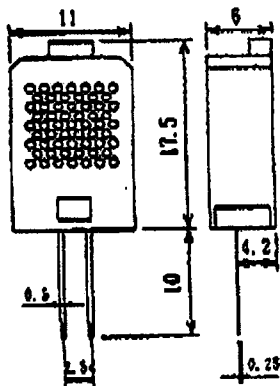
- ★ Airconditioners, Humidifiers, Dehumidifiers
- ★ Controller, Transmitter
- ★ Copying machines
- ★ Clock, Weathermeter
- ★ Hygrometer, Hygrorecorder

### Rating & Characteristics

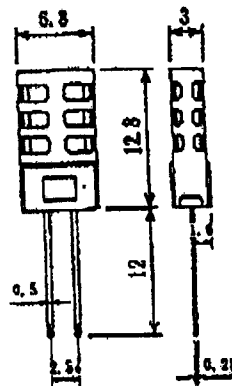
Characteristics	Type no.	SC0056
Rated Voltage		AC1Vrms
Rated Power		AC 0.2mW
Operating Temperature Range		0~60°C
Operating Humidity Range		Less than 90%RH
Recommended Storage Condition		10~40°C, 0~60%RH
Recommended Driving Frequency		500Hz~2KHz
Standard Humidity Resistance		31KΩ (25°C, 60%RH)
Humidity Detecting Accuracy		± 5%RH(25°C, 60%RH)
Temperature Dependence		0.5%RH/°C
Material of Filter Case		ABS
Color of Filter Case	Darkgray	Off-White
Dimension	11x27.5x6mm	6.8x24.8x3mm

### Dimensions (unit:mm)

Type no. SC0056 -1

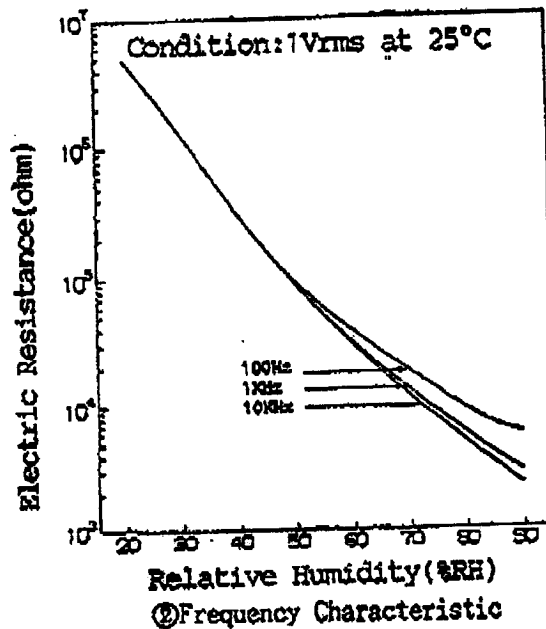
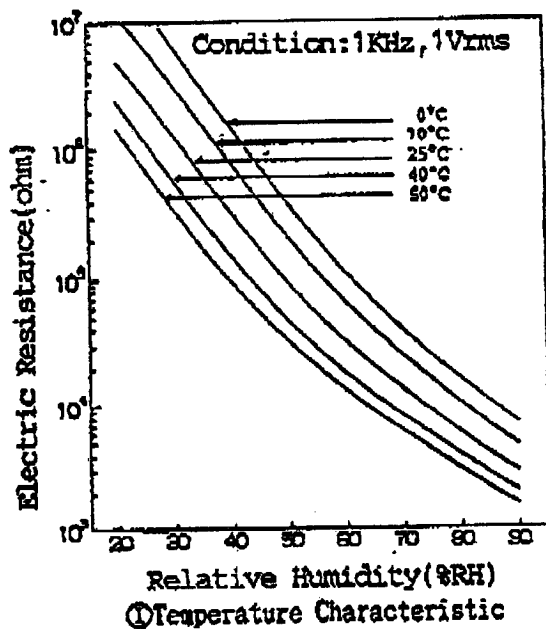


Type no. SC0056 -2



TYPE NO. SC0056

### Typical Characteristics



### Remarks on Using

- ★ Avoid input DC voltage to the Humidity Sensor
- ★ Avoid dewing and drenching
- ★ Avoid using the Humidity Sensor in the salt, inorganic gases and organic gases

## REFERENCES

### HUMIDITY SENSOR SC0056

#### Impedance VS % RH

unit: Ohms

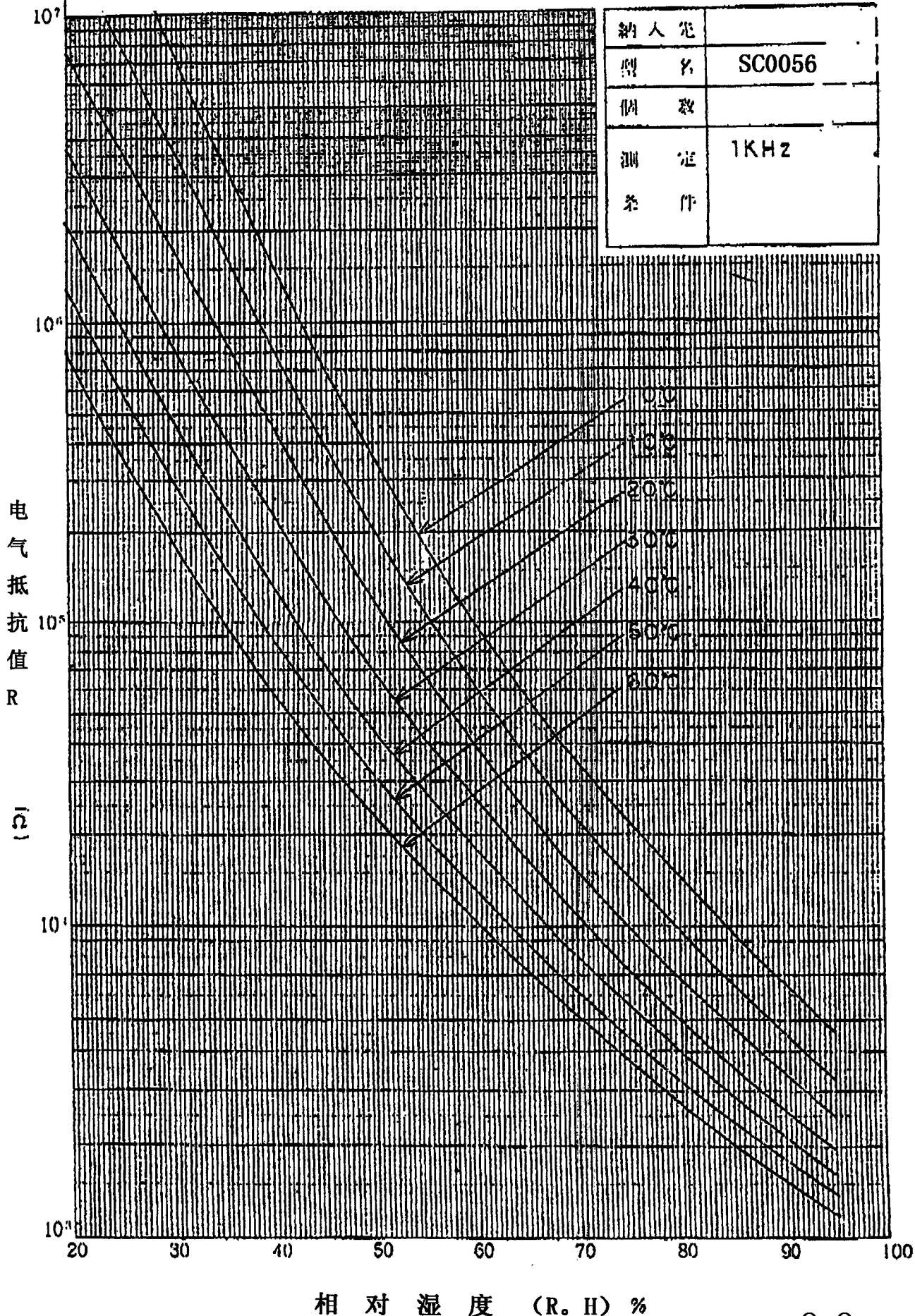
	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
20%RH				10M	6.7M	5.0M	3.9M	3.0M	2.4M	1.75M	1.45M	1.15M	970K
25%RH		10M	7.0M	5.0M	3.4M	2.6M	1.9M	1.5M	1.1M	880K	700K	560K	450K
30%RH	6.4M	4.0M	3.2M	2.3M	1.75M	1.3M	970K	740K	570K	420K	340K	270K	215K
35%RH	2.9M	2.1M	1.5M	1.1M	850K	630K	460K	380K	280K	210K	170K	130K	105K
40%RH	1.4M	1.0M	750K	540K	420K	310K	235K	190K	140K	110K	88K	70K	57K
45%RH	700K	500K	380K	280K	210K	160K	125K	100K	78K	64K	50K	41K	34K
50%RH	370K	260K	200K	150K	115K	87K	69K	56K	45K	38K	31K	25K	21K
55%RH	190K	140K	110K	84K	64K	49K	39K	33K	27K	24K	19.5K	17K	14K
60%RH	105K	80K	62K	50K	39K	31K	25K	20K	17.5K	15K	13K	11K	9.4K
65%RH	62K	48K	37K	30K	24K	19.5K	16K	13K	11.5K	10K	8.6K	7.6K	6.8K
70%RH	38K	30K	24K	19K	15.5K	13K	10.5K	9.0K	8.0K	7.0K	6.0K	5.4K	4.8K
75%RH	23K	18K	15K	12K	10K	8.4K	7.2K	6.2K	5.6K	4.9K	4.2K	3.8K	3.4K
80%RH	15.5K	12.0K	10.0K	8.0K	7.0K	5.7K	5.0K	4.3K	3.9K	3.4K	3.0K	2.7K	2.5K
85%RH	10.5K	8.2K	6.8K	5.5K	4.8K	4.0K	3.5K	3.1K	2.8K	2.4K	2.1K	1.9K	1.8K
90%RH	7.1K	5.3K	4.7K	4.0K	3.3K	2.8K	2.5K	2.2K	2.0K	1.8K	1.55K	1.4K	1.3K

at 1KHz

# 温度特性

SUNSTAR传感与控制 <http://www.sensor-ic.com/> TEL: 0755-83376549 FAX: 0755-83376182 E-MAIL: szss20@163.com

納入范	
型名	SC0056
個数	
測定条件	1KHz





深圳市商斯达实业有限公司荣誉出品

欢迎索取免费详细资料、设计选型指南和光盘、样品；产品繁多未能尽录，欢迎来电查询。

[中国传感器科技信息网：HTTP://WWW.SENSOR-IC.COM/](http://WWW.SENSOR-IC.COM/)

[工控安防网：HTTP://WWW.PC-PS.NET/](http://WWW.PC-PS.NET/)

[消费电子专用电路网：HTTP://WWW.SUNSTARE.COM/](http://WWW.SUNSTARE.COM/)

E-MAIL：[xjr5@163.com](mailto:xjr5@163.com) [szss20@163.com](mailto:szss20@163.com)

MSN：[suns8888@hotmail.com](mailto:suns8888@hotmail.com)

QQ：195847376

地址：深圳市福田区福华路福庆街鸿图大厦 1602 室

电话：0755-83376549 83376489 83387030 83387016

传真：0755-83376182 83338339 邮编：518033 手机：(0)13902971329

深圳展销部：深圳华强北路赛格电子市场 2583 号 TEL/FAX：  
0755-83665529 25059422

北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号

TEL：010-81159046 82615020 13501189838 FAX：010-82613476

上海分公司：上海市北京东路 668 号上海赛格电子市场 2B35 号

TEL：021-28311762 56703037 13701955389 FAX：021-56703037

西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)

西安劳动南路 88 号电子商城二楼 D23 号

TEL：029-81022619 13072977981 FAX:029-88789382

成都：TEL:(0)13717066236

技术支持：0755-83394033 13501568376

SUNSTAR商斯达实业集团是集研发、生产、工程、销售、代理经销、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一，是一家专业代理和分销世界各大品牌 IC 芯片和电子元器件的连锁经营综合性国际公司。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商，已在全国范围内建成强大统一的供货和代理分销网络。我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM 电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA 软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。专业以现代信息产业（计算机、通讯及传感器）三大支柱之一的传感器为主营业务，专业经营各类传感器的代理、销售生产、网络信息、科技图书资料及配套产品设计、工程开发。我们的专业网站——中国传感器科技信息网（全球传感器数据库）[www.SENSOR-IC.COM](http://www.SENSOR-IC.COM) 服务于全球高科技生产商及贸易商，为企业科技产品开发提供技术交流平台。欢迎各厂商互通有无、交换信息、交换链接、发布寻求代理信息。欢迎国外高科技传感器、变送器、执行器、自动控制产品厂商介绍产品到中国，共同开拓市场。本网站是关于各种传感器-变送器-仪器仪表及工业自动化大型专业网站，深入到工业控制、系统工程计 测量、自动化、安防报警、消费电子等众多领域，把最新的传感器-变送器-仪器仪表买卖信息，最新技术供求，最新采购商，行业动态，发展方向，最新的技术应用和市场资讯及时的传递给广大科技开发、科学研究、产品设计人员。本网站已成功为石油、化工、电力、医药、生物、航空、航天、国防、能源、冶金、电子、工业、农业、交通、汽车、矿山、煤炭、纺织、信息、通信、IT、安防、环保、印刷、科研、气象、仪器仪表等领域从事科学研究、产品设计、开发、生产制造的科技人员、管理人员、和采购人员提供满意服务。我们公司专业生产、代理、经销、销售各种传感器、变送器、敏感元器件、开关、执行器、仪器仪表、自动化控制系统：专业从事设计、生产、销售各种传感器、变送器、各种测控仪表、热工仪表、现场控制器、计算机控制系统、数据采集系统、各类环境监控系统、专用控制系统应用软件以及嵌入式系统开发及应用等工作。如热敏电阻、压敏电阻、温度传感器、温度变送器、湿度传感器、湿度变送器、气体传感器、气体变送器、压力传感器、压力变送、称重传感器、物（液）位传感器、物（液）位变送器、流量传感器、流量变送器、电流（压）传感器、溶氧传感器、霍尔传感器、图像传感器、超声波传感器、位移传感器、速度传感器、加速度传感器、扭距传感器、红外传感器、紫外传感器、火焰传感器、激光传感器、振动传感器、轴角传感器、光电传感器、接近传感器、干簧管传感器、继电器传感器、微型电泵、磁敏（阻）传感器、压力开关、接近开关、光电开关、色标传感器、光纤传感器、齿轮测速传感器、时间继电器、计数器、计米器、温控仪、固态继电器、调压模块、电磁铁、电压表、电流表等特殊传感器。同时承接传感器应用电路、产品设计和自动化工程项目。

更多产品请看本公司产品专用销售网站：

商斯达中国传感器科技信息网：<http://www.sensor-ic.com/>

商斯达工控安防网：<http://www.pc-ps.net/>

商斯达电子元器件网：<http://www.sunstare.com/>

商斯达微波光电产品网：[HTTP://www.rfoe.net/](http://www.rfoe.net/)

商斯达消费电子产品网：<http://www.icasic.com/>

商斯达军工产品网：<http://www.junpinic.com/>

商斯达实业科技产品网：<http://www.sunstars.cn/> 传感器销售热线：

地址：深圳市福田区福华路福庆街鸿图大厦 1602 室

电话：0755-83607652 83376489 83376549 83370250 83370251 82500323

传真：0755-83376182 (0) 13902971329 MSN: [SUNS888@hotmail.com](mailto:SUNS888@hotmail.com)

邮编：518033 E-mail: [szss20@163.com](mailto:szss20@163.com) QQ: 195847376

深圳赛格展销部：深圳华强北路赛格电子市场 2583 号 电话：0755-83665529 25059422

技术支持：0755-83394033 13501568376

欢迎索取免费详细资料、设计指南和光盘；产品凡多，未能尽录，欢迎来电查询。

北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号

TEL: 010-81159046 82615020 13501189838 FAX: 010-62543996

上海分公司：上海市北京东路 668 号上海赛格电子市场 D125 号

TEL: 021-28311762 56703037 13701955389 FAX: 021-56703037

西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)

西安劳动南路 88 号电子商城二楼 D23 号

TEL: 029-81022619 13072977981 FAX:029-88789382