



BH SENS TPMS

IT JUST MAKES SENS

保富电子产品介绍



上海保隆汽车科技股份有限公司
Shanghai Baolong Automotive Corporation

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BAOLONG AUTOMOTIVE

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ABOUT BAOLONG AUTOMOTIVE

保隆科技简介

保隆科技于1997年5月在松江创立，于2017年在上海证券交易所上市（股票代码：603197）。公司总部位于上海市松江区，在上海松江、上海浦东、安徽宁国、安徽合肥、湖北武汉和美国、德国、波兰、匈牙利、奥地利等地有生产基地以及研发和销售分支机构，全球员工超过6600人。

保隆科技立足汽车制造业，向汽车智能化与轻量化方向发展。公司产品包括气门嘴、平衡块、智能空气悬架等橡胶金属部件；排气系统管件、汽车结构件和EGR管件等汽车金属管件；汽车胎压监测系统、汽车传感器、基于摄像头和毫米波雷达等技术的汽车驾驶辅助系统等汽车电子产品。

保隆科技是宝马、奔驰、奥迪、大众、丰田、通用、一汽、东风、长安、长城、奇瑞、吉利、比亚迪、蔚来、小鹏、理想、零跑等知名汽车厂的合格供应商。公司以“让更多人受益于汽车科技的发展”为愿景，以“掌握领先技术，提升汽车部件”为使命，在汽车零部件领域作纵深发展。

Shanghai Baolong Automotive Corporation (hereinafter referred to as "Baolong") was founded in 1997, and is listed on Shanghai Stock Exchange (603197.SH). Headquartered in Songjiang District, Shanghai, Baolong has manufacturing sites, R&D and sales centers in China (Songjiang District and Pudong district, Shanghai; Ningguo and Hefei, Anhui Province; Wuhan, Hubei Province), the United States, Germany, Poland, Hungary, Austria, etc., and 6,600 staff around the world.

Baolong has implemented the "Intelligent & Lightweight" strategy to illustrate its continuous innovation in automotive solutions. Its products include rubber & metal parts such as tire valves, wheel weights, ECAS; metal tubing such as exhaust pipes, structural parts and EGR pipes; and automotive electronics featured by TPMS, sensors, and drive assistance systems based on cameras and millimeter-wave radars.

Adhering to the vision of "letting more people benefit from the development of automotive technology", and taking "mastering advanced technology to improve automotive components" as its mission, Baolong is a qualified supplier of BMW, Mercedes Benz, Audi, Volkswagen, Toyota, General Motors, FAW, Dongfeng, Changan, Great Wall, Chery, Geely, BYD, NIO, Xpeng, Ideal, Leapmotor, etc.

27 年历史

1997年5月20日
创立于上海松江

Founded in Songjiang, Shanghai on May 20, 1997

110+ 亿元

股票代码：603197.SH，2023年日均市值110.2亿元人民币
2017年5月19日在上海证券交易所上市
2021年4月30日完成非公开发行A股股票

Stock code: 603197.SH
Daily average market value of 2023: 11.02 billion (RMB)
Listed on Shanghai Stock Exchange on May 19, 2017 and completed non-public A-share offering on April 30, 2021

59 亿元

2023年全球合并营业收入58.97亿元人民币

Consolidated revenue globally of 2023: 5.89 billion (RMB)

6600+ 人

截至2023年12月31日
全球员工总数超过6600人

More than 6,600 employees globally as of Dec. 31, 2023

9 个生产园区

在中国、北美、欧洲
设有9个生产园区

Nine manufacturing parks in China, North America and Europe

2000+ 个客户

向全球50多个国家和地区的
2000多个客户提供产品和服务

Supplies to more than 2,000 customers in over 50 countries and regions

BUSINESS UNITS

业务单元

ARM 汽车橡胶金属部件业务单元 Automotive Rubber & Metal Parts

- 气门嘴 Tire Valves
- 平衡块 Wheel Weights
- 储气罐 Air Reservoirs
- 铝制配件 Aluminum Parts
- 连接母排 Busbar

ALW 汽车轻量化业务单元 Automotive Light Weight

- 车身 / 底盘结构件 Body / Chassis Structural Parts
- 液冷板 Liquid Cold Plates

IDS 智能驾驶业务单元 Intelligent Driving Solutions

- 摄像头 Cameras
- 毫米波雷达 Millimeter-Wave Radars
- 超声波雷达 Ultrasonic Radars
- 解决方案 Solutions

ECAS 智能空气悬架业务单元 Electronically Controlled Air Suspension

- 空气悬架系统 Air Suspension Systems
- 空气弹簧 Air Springs
- 空气供给单元 Air Supply Units
- 系统集成 / 控制器 System Integration / Suspension Controller

TPMS 胎压监测系统业务单元 Tire Pressure Monitoring Systems

- 轮胎压力监测系统 TPMS

AME 汽车后市场与装备业务单元 Automotive Aftermarket & Equipment

- 汽车后市场 Automotive Aftermarket
- 汽保设备与工具 Maintenance Equipment & Tools
- 自动化产线 Automated Production Lines

AMT 汽车金属管件业务单元 Automotive Metal Tubing

- 排气系统管件 Exhaust Mounted Trims
- 铝外饰件 Aluminum Exteriors
- EGR管件 EGR Pipes
- 金属冲压件 Metal Stamped Parts

AS 传感器业务单元 Automotive Sensors

- 压力传感器 Pressure Sensors
- 光学传感器 Optical Sensors
- 电流传感器 Current Sensors
- 速度传感器 Speed Sensors
- 位置传感器 Position Sensors
- 加速度/偏航率传感器 Accelerator / Yaw Rate Sensors

DILL DILL单元 Dill Air Controls Products, LLC

- 售后车用气门嘴 Tire Valves For Automotive Aftermarket
- 飞机气门嘴 Valves For Aircraft
- 售后TPMS TPMS For Aftermarket
- 工业阀门 Industrial Valves

MILESTONES

发展历程

1997
公司成立
Baolong founded

1998
研制轮胎气门嘴
Developed tire valves

1999

总部园区成立
Songjiang (China) factory opened

2000
研制车轮平衡块
Developed wheel weights

2001
研制排气系统管件
Developed exhaust pipes

2002
研制TPMS
Developed TPMS

2005
收购美国DILL公司
Acquired Dill Air Controls Products, LLC

2006
宁国园区成立
Ningguo (China) factory opened

2009
研制汽车压力传感器
Developed pressure sensors

2012
研制汽车结构件、光学传感器、空气弹簧
Developed structural parts, optical sensors, and air springs

2013
研制视觉系统、毫米波雷达
Developed cameras and millimeter-wave radars

2014
武汉园区成立
Set up R&D center in Wuhan, China

2016
研制电控减振器
Developed air spring dampers

2017
上海证券交易所上市
IPO on Shanghai Stock Exchange

2018
合肥园区成立; 收购德国PEX和TESONA; 研制ECAS
Hefei (China) factory founded; Acquired PEX, TESONA; Developed ECAS

2019
保富电子正式运营; 保隆沙士基达成立; 收购奥地利MMS
BH SENS established; BSHF founded; Acquired MMS, Austria

2020
与领目科技合资; 武汉园区新办公楼启用; 量产双目视觉系统
JV with Leadmove; Wuhan R&D building opened; Batch production of stereo cameras

2021
SAP上线; 空气悬架新品量产; 合肥园区启用
Introduced ERP system from SAP; Batch production of air suspension; Hefei (China) factory opened

2022
收购龙感科技; 与苏州优达斯合资; 与元橡科技合资; 全铝空悬储气罐量产下线; 成立迈艾斯上海

Acquired Longgan; JV with UDAS; JV with METOAK; Mass produced all-aluminum gas holders for air suspension; MMS (Shanghai) founded

2023
欧洲研发制造中心正式开园; 安徽宁国两个新厂区启用&项目投产; 悬架控制器在合肥园区量产下线
European R&D and manufacturing center opened in Hungary; two new factories in Ningguo opened and started production; Mass produced air suspension controllers in Hefei factory

GLOBAL FOOTPRINT

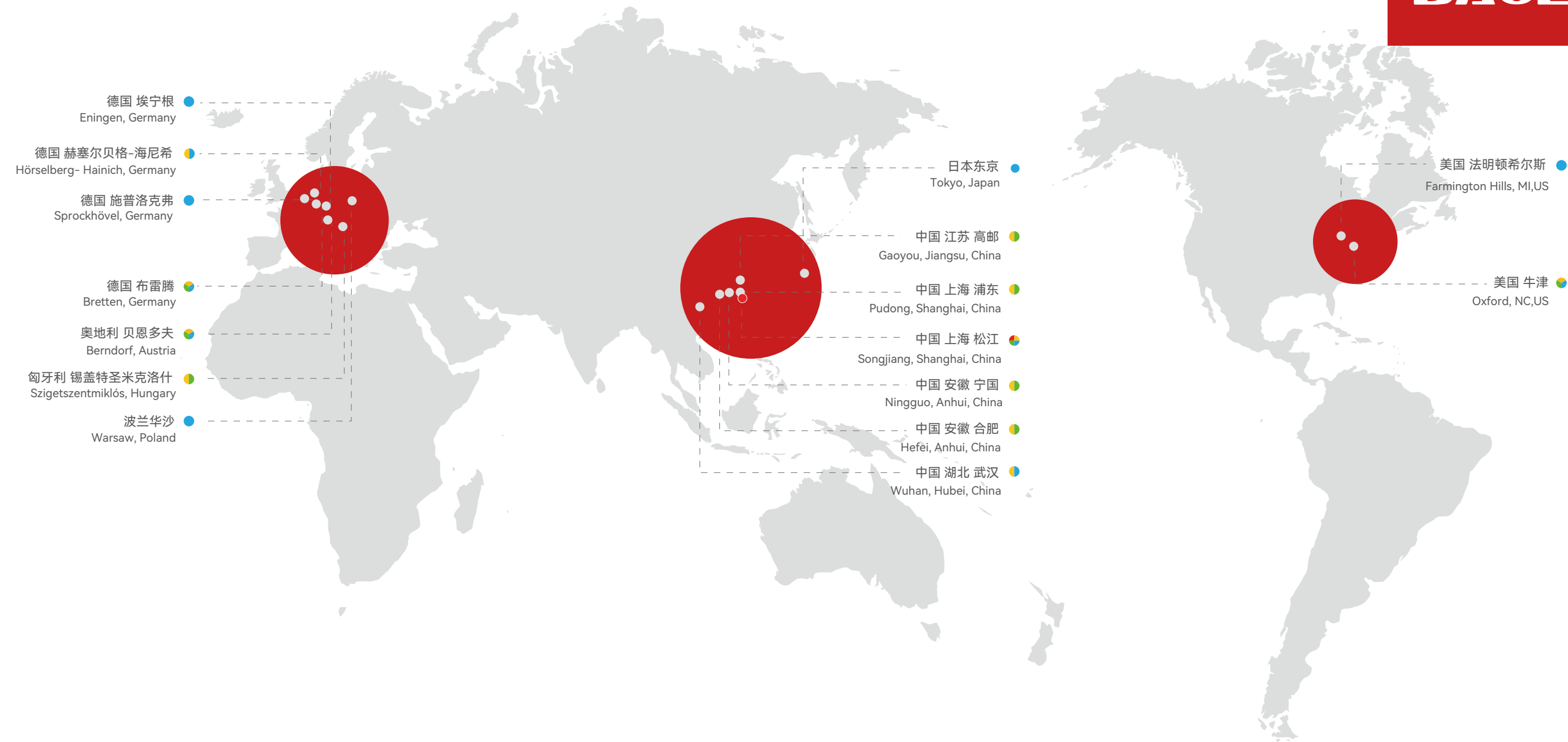
全球布局

当客户选择保隆科技作为汽车产品和解决方案的供应商时，他们能够从保隆科技遍布全球的网点中获得广泛的服务。在全球范围内，我们保隆科技敬业的员工始终在客户的身边。保隆科技的这些人才，通晓汽车行业，并了解客户的具体需求，能够随时为客户提供各种支持。

When customers choose Baolong as a supplier of automotive products and solutions, they can be assured of abroad spectrum of services from Baolong's global network.

Globally present, the access to Baolong's dedicated employees is never far away. Baolong's talents who all know the automotive industry and understand customers' specific demands and needs are always ready to support customers.

- 公司总部
Headquarter
- 研发中心
R&D Centers
- 生产园区
Manufacturing Parks
- 销售分支机构
Sales Branches



MAIN CUSTOMER

主要客户

保隆科技与许多世界知名的整车厂和一级供应商合作，他们相信保隆科技致力于汽车产品和解决方案的创新和改变，使得驾乘人员能够获得更安全、更有效率和更舒适的体验。

Baolong cooperates with many world-renowned OEMs and Tier-1 suppliers that trust us to implement the most innovative and game-changing products and solutions to improve safety, efficiency and comfort.

自主品牌 Chinese Brands



造车新势力 Start-Ups



外资品牌 International Brands



一级供应商 Tier-1 Suppliers



售后客户 Aftermarket



注：以客户英文名称首字母的先后顺序排列 (In alphabetical order of English name)

BH SENS

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保富电子产品介绍-后市场



BH SENS AT A GLANCE

保富电子简介



成立于**2019**年，由保隆集团和霍富集团
合资成立

Established in 2019 as JV of Baolong Group & Huf Group

保富电子专注于TPMS的研发、生产和销售超过20年，
产品的市场占有率位列全球前**3**

BH SENS has been focusing on the development, manufacturing,
and sales of TPMS for over twenty years. The market share ranks
among the top three globally

整合了保隆和霍富的全球TPMS业务，拥有超过**20**年
的专业经验

More than 20 years TPMS expertise combining global
TPMS activities of Baolong & Huf

在中国上海、中国武汉、德国布雷滕设有
3个研发中心

3 development centers in Shanghai, China, Wuhan, China,
Bretten, Germany

在中国，德国和北美设有
3个生产基地

Excellent products based on 3 production centers in China,
Germany and North America

2个总部
分别位于中国上海和德国布雷滕

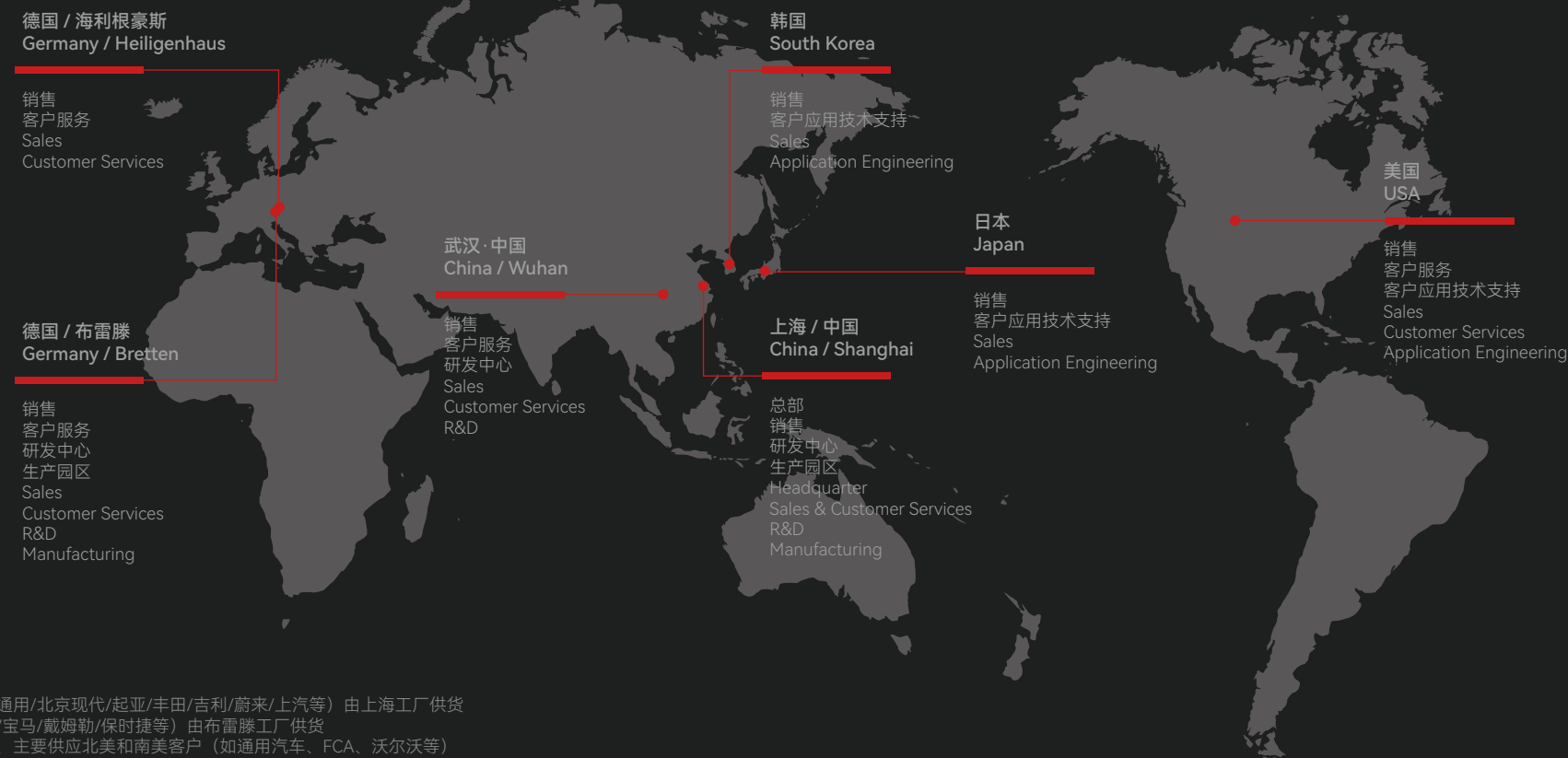
2 HQs in Shanghai, China and Bretten, Germany

位于**20**多个国家的销售办事处可提供广泛的服务

Broad-spectrum of services from sales offices in more than
20 countries

BH SENS GLOBAL FOOTPRINT

保富电子全球布局



- 亚洲地区客户（如上海通用/北京现代/起亚/丰田/吉利/蔚来/上汽等）由上海工厂供货
- 欧洲地区客户（如大众/宝马/戴姆勒/保时捷等）由布雷滕工厂供货
- 美国新工厂正在建设中，主要供应北美和南美客户（如通用汽车、FCA、沃尔沃等）

- Customers in Asian region is supplied by Shanghai plant, such as SGM/ BHM/ KIA/ TOYOTA/ GEELY/ NIO/ SAIC, etc.
- Customers in European region is supplied by Bretten plant, such as VW/ BMW/ Daimler/ Porsche, etc.
- The new USA plant is under construction, mainly for the supply to customers in North and South America, such as GM, FCA, Volvo, etc.



BH SENS MARKET HIGHLIGHTS

保富电子市场概览

全球销量领先的TPMS供应商

The world's leading TPMS supplier

80+

家

深度合作的OEM客户

BH SENS has cooperated with 80+

450+

种

车型开发经验

The number of vehicle models that BH SENS has developed for 450+

3600+

万支

TPMS传感器2022年销量

Sales volume in 2022 is 36+ million pieces

5000+

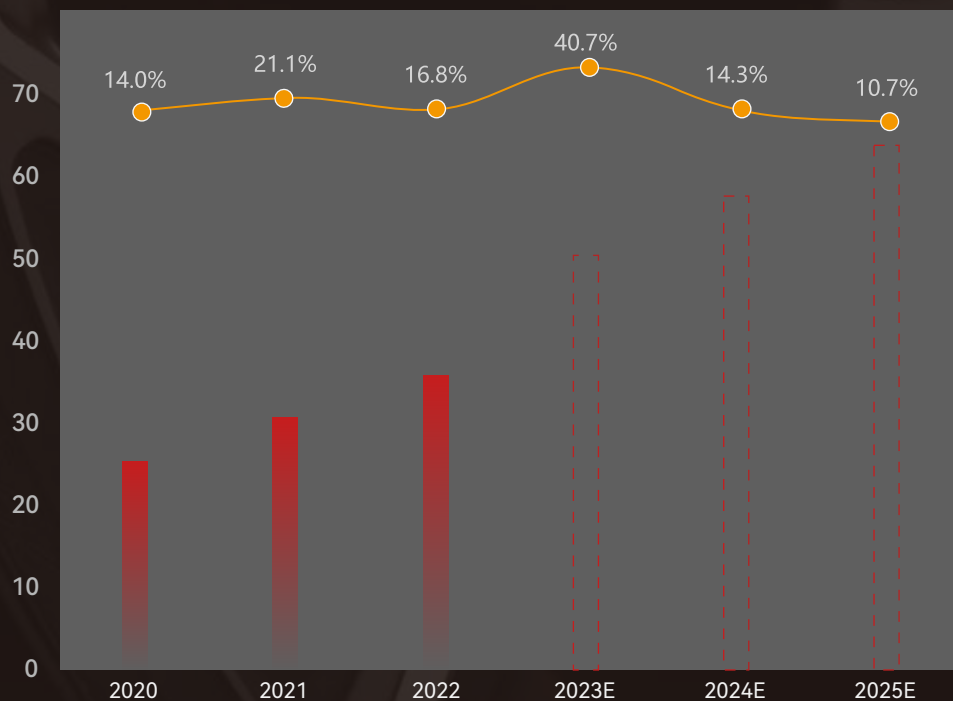
万支

2023年预计销量

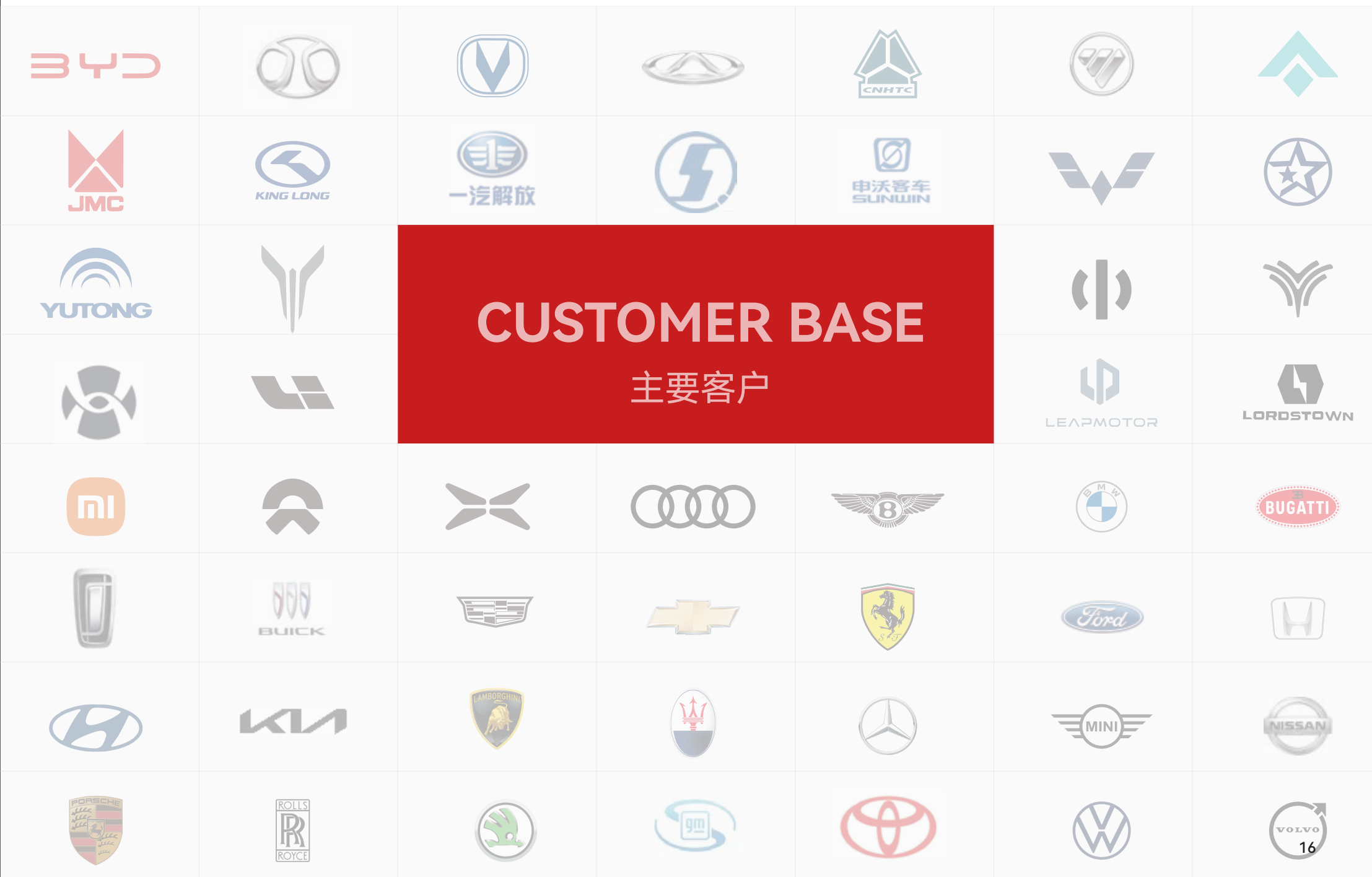
Estimated sales volume in 2023 50+ million pieces

2020-2025年保富电子TPMS全球销量 [百万支] 及同比

Global sales volume [million pieces] and YoY of BH SENS TPMS, 2020-2025



■ 销量/百万支
Sales Volume / Million Pieces
■ 同比
YoY

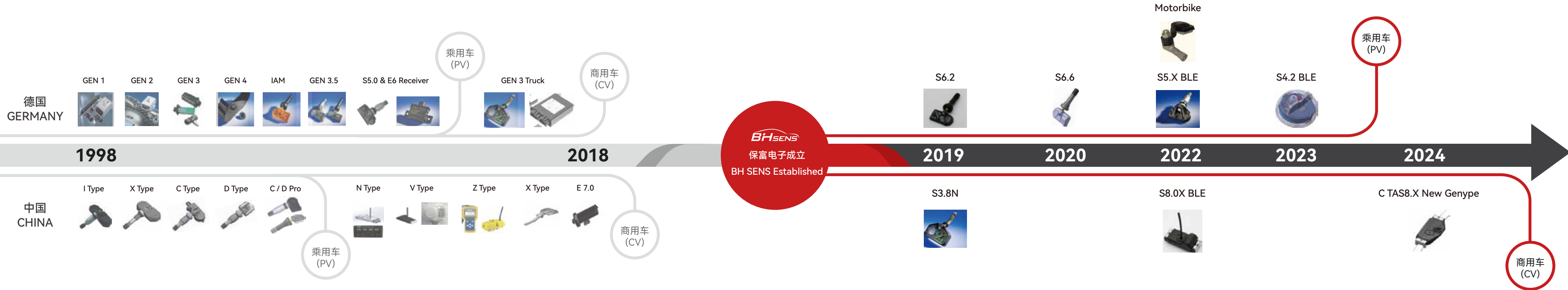




BH SENS SOLUTIONS HISTORY

保富电子产品线

Provide customized TPMS solutions for passage car, commercial vehicle & Special vehicle
为乘用车、商用车、特种车辆提供定制化的TPMS方案





BH SENS SOLUTIONS MILESTONE

保富电子技术发展路线

2022

S 4.12 、 S 7.1D

S5 type
· 装在轮胎上的传感器
· 负载估计功能
· 胎面磨损功能

S7.1D

· 为摩托车提供解决方案
· RF或BTX

S5.6M

· 双芯片低功耗蓝牙解决方案
· 空中升级

S4 type

· Tire mounted sensor
· Load Estimator function
· Tread Wear function

S7.1D

· Solution for motorcycle
· RF or BTX

S5.6M

· Dual chip BLE solution
· OTA

New Truck TPMS System 新一代卡车用TPMS

新组件 (低功耗蓝牙) (ECU)

· 低功耗蓝牙新一代ECU
· 基于国产芯片解决方案的新一代ECU
· 新一代卡车用TPMS
· 满足欧洲/中国/北美法规

New components (BLE) (ECU)

· New ECU of BLE
· New ECU based on domestic chip solution

New Truck TPMS System

· Support EU/CN/NA regular

2023/2024

IAM 、 S 4.1X

S4型

· 安装在轮胎上的传感器
· 低功耗蓝牙连接
· 胎面磨损算法
· 负载算法

用于后市场的新算法

· 新一代软件算法
· 胎压监测系统服务系统
· 手机应用程序

S4 type

· Tire mounted sensor
· BLE connectivity
· Tread Wear algorithm
· Load algorithm

New algorithm of IAM

· New software algorithm

TPMS Service system

· App of mobile phone

2025

S 6.6x

S6型

· 基于低功耗蓝牙的单芯片版本
· 新一代解决方案
· 在线升级, 网络安全

S6 type

· BLE based Single chip version
· Next generation solution
· OTA, Cyber security

2026

S 4xx

S4xx型

· 用于胎面磨损和负载的新一代硬件和软件
· 空中升级, 网络安全
· 功能可扩展, 如路况监测等

S4xx type

· New hardware and software for tread wear and load
· OTA, Cyber security
· Extensible for new function, such as road status detection

BH SENS CORE COMPONENTS ADVANTAGE

保富电子核心部件优势

芯片 CHIP

- 1.在TPMS芯片领域处于领先地位
- 2.双轴加速度解决方案; 或单轴加速度解决方案
- 3.可提供RF和BLE的量产解决方案



电池 BATTERY

- 1.在TPMS电池领域处于领先水平
- 2.胎压电池布局早、且深入, 并且已经开始研究固态电池新技术



气门嘴 VALVE

- 1.全球领先的TPMS气门嘴制造商
- 2.具有丰富的气门嘴结构开发经验, 专有橡胶配方技术



- 1.The TPMS valve leading manufacturer worldwide, the major supplier of top TPMS manufacturer
- 2.Having rich experience in valve structure development, Proprietary rubber formulation technology



BH SENS CAPABILITY

保富电子研发 & 试验能力

V-MODEL

在汽车电子相关产品的研发中，已经实施了基于ASPICE和ISO26262的V-MODEL的开发
In the research and development of automotive electronics-related products, the development of V-MODEL based on ASPICE and ISO26262 has been implemented

电子实验室已获得CNAS认证，具备TPMS全套检测能力
Our laboratory has complete testing capabilities for TPMS, Electronic laboratory obtained CNAS certification



ASPICE 二级认证
Automotive SPICE Capability Level 2

CNAS 证书
China National Accreditaon Service for Conformity Assessment

ISO26262 功能安全证书
Functional Safety Management



▶ TPMS车轮传感器 S6.62

TPMS Wheel Sensor S6.62

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications	
 <ul style="list-style-type: none"> · 用于SUV、乘用车和轻型车辆 · 从2020年第四季度起开始批量生产 · TPMS sensor for application on SUV, Passenger Cars and Light Duty Vehicles · In series production from Q4/2020 	<ul style="list-style-type: none"> · 高度集成的TPMS芯片解决方案 (英飞凌 SP40+) · 激光焊接盖板 · 设计紧凑, 重量轻 · 重心在轮辋外侧 · 在轴向位置用螺钉安装气门嘴 · APC自动定位功能, 支持其他基于ABS的自动定位 · Highly integrated TPMS chip solution (IFX SP40+) · Laser welded cover plate · Extremely compact & light weight · Center of gravity outside rim · Valve mounted with screw in axial position · APC autolocation feature and ability to support other ABS based autolocation features 	尺寸[L/B/H] / Dimensions [L/B/H]	45 mm * 28 mm * 15 mm
		重量(不含气门嘴) / Weight (W/O Valve)	8.2 gr
		加速度传感器 / Acceleration Sensor	一轴 (Z) ; 1 Axis (Z)
		工作温度 / Operating Temperature	-40°C - +125°C
		电池使用寿命 / Battery Service Life	通常10年; typ. 10 Years
		压力范围 / Pressure Range	100 kPa - 500 kPa (abs.绝对)
		压力分辨率 / Pressure Resolution	0.5 kPa
		精度 / Accuracy	5.0 kPa, @ 0 - 60°C, 100 - 500 kPa
		低频接收 / LF Receive	低频工具使用中; Tool LF In Service
		射频发射 / RF Transmit	315 MHz or 433 MHz
		气门嘴类型 / Valve Type	橡胶; Rubber
		气门嘴角度 / Valve Angle	20°
		速度范围 / Speed Range	250 km/h up to 270 km/h
		自诊断功能 / Self Diagnostic Function	Yes

▶ TPMS 车轮传感器 S5.6M (低功耗蓝牙)

TPMS Wheel Sensor S5.6M (BLE)

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications	
 <ul style="list-style-type: none"> · 用于乘用车和轻型车辆的标准TPMS传感器 · 完整的低功耗蓝牙解决方案 · Standard TPMS sensor for application on Passenger Cars and Light Duty Vehicles · Full BLE solution 	<ul style="list-style-type: none"> · 高度集成的TPMS芯片解决方案 (英飞凌 SP40+ 和 芯科BG22) · 封装设计 (有效防腐) · 耐机械和化学应力 · 设计紧凑, 重量轻 · APC自动定位功能, 支持其他基于ABS的自动定位 · Highly integrated TPMS chip solution (IFX SP40+ and Silicon BG22) · Potted electronic (effective corrosion protection) · Extremely robust against mechanical and chemical stress · Compact design & Light weight · APC autolocation feature and ability to support other ABS based autolocation features 	尺寸[L/B/H] / Dimensions [L/B/H]	47 mm * 30mm * 19mm
		重量(不含气门嘴) / Weight (W/O Valve)	15.5 gr
		加速度传感器 / Acceleration Sensor	单轴 (Z) ; 1 Axis (Z)
		工作温度 / Operating Temperature	-40°C - +125°C
		电池使用寿命 / Battery Service Life	通常10年; typ. 10 Years
		压力范围 / Pressure Range	100 kPa - 900 kPa (abs.绝对)
		压力分辨率 / Pressure Resolution	0.5 kPa
		精度 / Accuracy	5.0 kPa, @ 0 - 60°C, 100 - 500 kPa
		低频接收 / LF Receive	低频工具使用中; Tool LF In Service
		射频发射 / RF Transmit	BLE 5.0
		气门嘴类型 / Value Type	可调角度金属嘴; Flexible Angle Metal Valve
		气门嘴角度 / Value Angle	0-36°
		速度范围 / Speed Range	330 km/h
		自诊断功能 / Self Diagnostic Function	Yes

BH SENS TPMS PRODUCT PORTFOLIO - OEM

保富电子产品介绍 - OEM

▶ TPMS车轮传感器 S4.12

TPMS Wheel Sensor S4.12 (BLE)

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications	
 <ul style="list-style-type: none"> · 用于乘用车和轻型车辆的轮胎式TPMS传感器 · 2018年7月起, 为米其林小批量供货 · Tire mounted TPMS sensor for application on Passenger Cars and Light Duty Vehicles · Small series production with Michelin (07/2018) 	<ul style="list-style-type: none"> · 高度集成的TPMS芯片解决方案 (英飞凌 SP40+) · 封装设计, 鲁棒性更强 · 速度: 270公里/小时 · 设计紧凑, 重量轻 · APC自动定位功能, 支持其他基于ABS的自动定位功能 · 适用于VDA标准的橡胶容器 · 得到两大轮胎制造商批准 · Highly integrated TPMS chip solution (IFX SP40+) · Potted design for extended robustness · 270 km/h speed rate · Extremely compact & light weight · APC autolocation feature and ability to support other ABS based autolocation features · Fits to rubber container according VDA standard · Approved by two major tire manufacturers 	尺寸[L/B/H] / Dimensions [L/B/H]	24.6 mm / 15.4 mm
		重量(不含橡胶支架) / Weight (W/O Rubber Holder)	8.5 gr
		加速度传感器 / Acceleration Sensor	单轴 (Z) ; 1 Axis (Z)
		工作温度 / Operating Temperature	-40°C - +125°C
		电池使用寿命 / Battery Service Life	通常10年; typ. 10 Years
		压力范围 / Pressure Range	100 kPa - 900 kPa (abs.绝对)
		压力分辨率 / Pressure Resolution	0.5 kPa
		精度 / Accuracy	5.0 kPa, @ 0 - 60°C, 100 - 500 kPa
		低频接收 / LF Receive	低频工具使用中; Tool LF In Service
		射频发射 / RF Transmit	315 MHz or 433 MHz
		轮胎附件 / Tire Attachment	According VDA Standard
		速度范围 / Speed Range	270 km/h
		自诊断功能 / Self Diagnostic Function	Yes

▶ TPMS车轮传感器 S7.1D (低功耗蓝牙)

TPMS Wheel Sensor S7.1D (BLE)


应用 / Applications	主要特点 / Key Features	规格参数 / Specifications	
 <ul style="list-style-type: none"> · 标准胎压传感器用于低速电动摩托车 · 自2022年5月起, 批量供货给哈罗电动自行车 · 战略项目: 低功耗蓝牙传感器试装在两轮车上 · Standard TPMS sensor for application on Electric low speed motorbike · In series production with Hello Electric Bike (from 05/2022) · Strategy project for BLE application trial for gaining two wheels experience 	<ul style="list-style-type: none"> · 蓝牙传感器 · 高度集成的TPMS芯片解决方案 (矽捷SNP736 BTX芯片) · 70公里/小时, 可按需配置其他速度 · 激光焊接 · 设计紧凑, 重量轻 · 重心在轮辋内侧/外侧 · 在轴向位置用螺钉安装气门嘴 · 应要求, 可配置APC自动定位功能 · Bluetooth sensor · Highly integrated TPMS chip solution (Senasic SNP736 BTX chip) · 70km/h, other speed upon request · Laser welded · Extremely compact & light weight · Center of gravity inside/outside rim · Valve mounted with screw in axial position · APC autolocation feature upon request 	尺寸[L/B/H] / Dimensions [L/B/H]	26.6 mm * 29.5mm * 15 mm (w/o Valve/不含气门嘴)
		重量(不含气门嘴) / Weight (W/O Valve)	9.5 g (w/o Valve, 不含气门嘴)
		加速度传感器 / Acceleration Sensor	2 Axis (X&Z)
		工作温度 / Operating Temperature	-40°C - +105°C (125C 1 Hours, 125°C一小时)
		电池使用寿命 / Battery Service Life	通常7-10年; typ. 7-10 Years
		压力范围 / Pressure Range	100 kPa - 800 kPa (abs.绝对)
		压力分辨率 / Pressure Resolution	2.75 kPa
		精度 / Accuracy	5.0 kPa, @ 0-70°C, 100-500 kPa
		低频接收 / LF Receive	Tool LF In Service (低频工具使用中)
		射频发射 / RF Transmit	433 MHz
		低功耗蓝牙 / BLE	4.0 BTX
		气门嘴类型 / Valve Type	Metal; 金属
		气门嘴角度 / Valve Angle	40 ° Rear / 90° Front (后40° / 前90°)
		速度范围 / Speed Range	70km/h (受气门嘴设计限制 / Limited By Valve Design)
		自诊断功能 / Self Diagnostic Function	Yes

BH SENS TPMS PRODUCT PORTFOLIO - OEM

保富电子产品介绍 - OEM

▶ 工程车TPMS车轮传感器 S8.22

TPMS Wheel Sensor S8.22 (OTR)

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications	
 <ul style="list-style-type: none"> ·用于工程车（即采矿车辆轮胎） ·自2014年起面向售后市场批量生产 ·For OTR (i.e. mining vehicle tyres) ·In series production for aftermarket since 2014 	<ul style="list-style-type: none"> ·独特的设计，能耐受腐蚀性轮胎冷却剂 ·专用气缸压力传感器 ·用于巨型轮胎的独特磁铁安装方法 ·可选AMTEK 4英寸显示屏 ·Unique design to work with corrosion tire coolants ·Special cylinder pressure sensor ·Unique magnet installation method for giant tires ·Optional AMTEK 4 inch display 	尺寸[L/B/H] / Dimensions [L/B/H]	83 mm * 50 mm * 48 (+55) mm
		重量(不含气门嘴) / Weight (W/O Valve)	280 gr
		加速度传感器 / Acceleration Sensor	Philips PCH7970
		工作温度 / Operating Temperature	-40°C - +85°C
		电池使用寿命 / Battery Service Life	通常10年; typ. 10 Years
		压力范围 / Pressure Range	100 kPa -1400 kPa (abs.绝对)
		压力分辨率 / Pressure Resolution	0.5 kPa
		精度 / Accuracy	33 kPa, @ 0 - 60°C
		低频接收 / LF Receive	低频工具使用中; Tool LF In Service
		射频发射 / RF Transmit	433 MHz
		气门嘴类型 / Valve Type	NA
		气门嘴角度 / Valve Angle	NA
		速度范围 / Speed Range	60KM/h Extreme Duty Tyre/超重型轮胎
		自诊断功能 / Self Diagnostic Function	Yes

▶ TPMS 控制器 E6.1

TPMS ECU E6.1

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications	
 <ul style="list-style-type: none"> ·用于乘用车和轻型车辆的标准TPMS控制器 ·支持保富电子 APC 自动定位算法 ·已量产于大众/本田保时捷 ·Standard TPMS ECU for application on Passenger Cars and Light Duty Vehicles ·Supports BH SENS APC autolocation algorithm ·In series production with VW/ Porsche Honda 	<ul style="list-style-type: none"> ·支持 CAN-FD ·耐机械和化学应力 ·控制器带有集成射频接收器 ·设计紧凑，重量轻 ·APC 自动定位功能 ·Supports CAN-FD ·Extremely robust against mechanical and chemical stress ·ECU with integrated RF receiver ·Compact design + Light weight ·APC autolocation feature 	尺寸[L/B/H] / Dimensions [L/B/H]	67 mm * 90 mm * 27 mm
		重量(不含气门嘴) / Weight (W/O Valve)	40 gr
		工作温度 / Operating Temperature	-40°C - +105°C
		工作压力 / Operating Pressure	6 - 16 V, Overvoltage max 42V; 最大过压42V
		射频发射 / RF Transmit	315MHz or 433 MHz
		微控制器 / Microcontroller	32Bit NXP
		自诊断功能 / Self Diagnostic Function	Yes
		CAN总线 / CAN Bus	FlexData (500 kB); 弹性数据 (500 KB)
		连接器类型 / Connector Type	AMP MQS 4 pin, Coding A
		防护等级 / Protection Class	ISO20653 / IP6K6K IPX7 IPX9K
		电流消耗 / Current Consumption	Quiescent Current (静态电流) < 40µA @ 23°C
		软件合规性 / SW Compliance	Autosar

BHSENS TPMS PRODUCT PORTFOLIO - IAM

保富电子产品介绍-后市场

▶ TPMS车轮传感器 S5.0G

TPMS Wheel Sensor S5.0G

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications
 <ul style="list-style-type: none"> ·用于乘用车和轻型车辆售后市场或经销商 ·自2018年7月起批量生产 ·年产量750万支 ·TPMS sensor for aftermarket or dealership applications on Passenger Cars and Light Duty Vehicles ·In series production since 07/2018 ·Annual production capacity 7.5 Mio 	<ul style="list-style-type: none"> ·具有100多种协议的通用传感器 ·高度集成的2轴TPMS芯片解决方案（恩智浦 7x7 Lausitz-E） ·封装设计（有效防腐） ·旋转方向监测 ·支持APC系统和其他ABS相关系统 ·Universal sensor with >100+ different protocols ·Highly integrated 2-Axis TPMS chip solution (NXP 7x7 Lausitz-E) ·Potted electronic (effective corrosion protection) ·Rotation direction detection (RDD) ·Supports APC systems and other ABS correlation systems 	尺寸[L/B/H] / Dimensions [L/B/H] 47 mm * 30 mm * 19 mm 重量(不含气门嘴) / Weight (W/O Valve) 15.5 gr 加速度传感器 / Acceleration Sensor 两轴 (X,Z) ; 2 Axis (XZ) 外部存储器 / External Memory 8MBit SPI 闪存; 8MBit SPI Flash Memory 工作温度 / Operating Temperature -40°C - +125°C 电池使用寿命 / Battery Service Life 通常6年; typ. 6 Years 压力范围 / Pressure Range 100 kPa - 900 kPa (abs.绝对) 压力分辨率 / Pressure Resolution 2.5 kPa(Upon OEM Protocol/按主机厂协议) 精度 / Accuracy 10.0 kPa, @ 0 - 70°C, 100 - 500 kPa(Upon OEM Protocol) 低频接收 / LF Receive 低频工具使用中, Tool LF In Service 射频发射 / RF Transmit 315 MHz and 433 MHz 气门嘴类型 / Valve Type 可调角度金属嘴; Flexible Angle Metal Valve 气门嘴角度 / Valve Angle 0 - 36 ° 速度范围 / Speed Range 330 km/h 自诊断功能 / Self Diagnostic Function Yes

▶ TPMS车轮传感器 S5.25M

TPMS Wheel Sensor S5.25M

应用 / Applications	主要特点 / Key Features	规格参数 / Specifications
 <ul style="list-style-type: none"> ·用于乘用车和轻型车辆的标准TPMS传感器 ·自2018年7月起批量生产 ·年产量750万支 ·Standard TPMS sensor for application on Passenger Cars and Light Duty Vehicles ·In series production since 07/2018 ·Annual production capacity 7.5 Mio 	<ul style="list-style-type: none"> ·在轴向位置用螺钉安装的气门嘴 ·高度集成的2轴TPMS芯片解决方案（恩智浦 7x7 Lausitz-E） ·封装设计（有效防腐） ·耐机械和化学应力 ·设计紧凑，重量轻 ·APC自动定位功能，支持其他基于ABS的自动定位功能 ·Valve mounted with screw in axial position ·Highly integrated 2-Axis TPMS chip solution (NXP 7x7 Lausitz-E) ·Potted electronic (effective corrosion protection) ·Extremely robust against mechanical and chemical stress ·Compact design & Light weight ·APC autolocation feature and ability to support other ABS based autolocation features 	尺寸[L/B/H] / Dimensions [L/B/H] 48 mm * 26 mm * 15 mm 重量(不含气门嘴) / Weight (W/O Valve) 14 gr 加速度传感器 / Acceleration Sensor 两轴 (XZ) ; 2 Axis (XZ) 外部存储器 / External Memory 4MBit SPI 闪存; 4MBit SPI Flash Memory 工作温度 / Operating Temperature -40°C - +125°C 电池使用寿命 / Battery Service Life 通常6年; typ. 6 Years 压力范围 / Pressure Range 100 kPa - 900 kPa (abs.绝对) 压力分辨率 / Pressure Resolution 2.5 kPa 精度 / Accuracy 10.0 kPa, @ 0 - 70°C, 100..500 kPa 低频接收 / LF Receive 低频工具使用中, Tool LF In Service 射频发射 / RF Transmit 315 MHz or 433 MHz 气门嘴类型 / Valve Type 金属; Metal 气门嘴角度 / Valve Angle 10 ° 速度范围 / Speed Range 250 km/h 自诊断功能 / Self Diagnostic Function Yes